

Transportation

Library

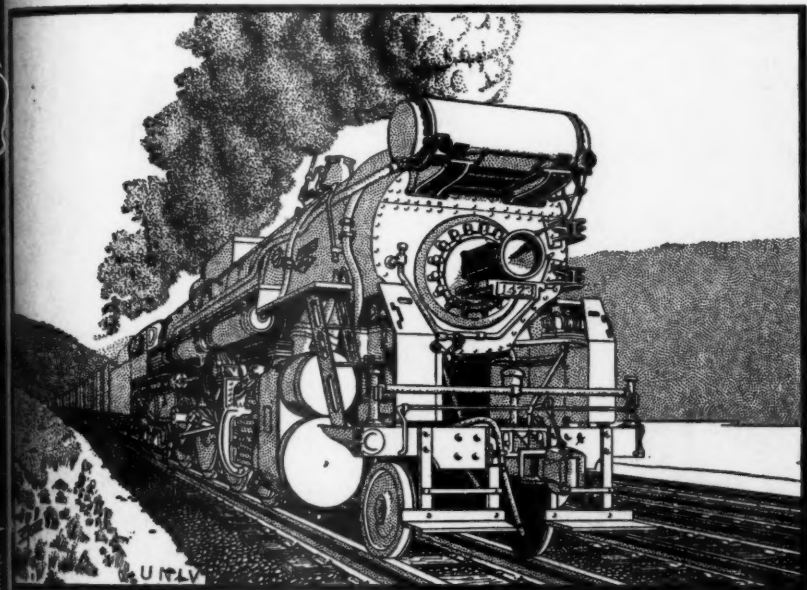
TF *The Railway and Locomotive Historical Society*

R133

no. 93

JAN 7 1955

BULLETIN No. 93



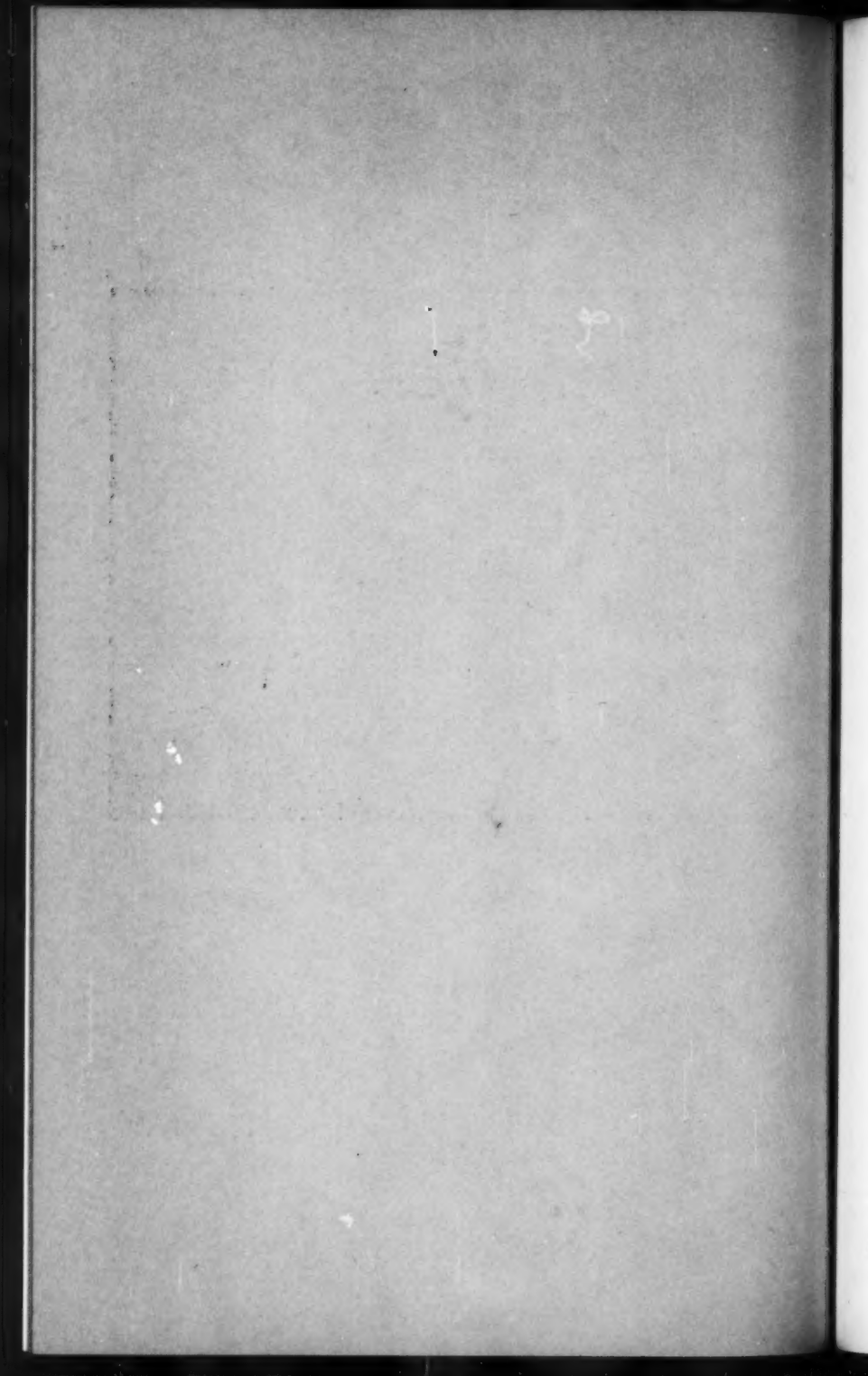
JAN 3 - 1955

TRANSPORTATION
LIBRARY



THE RAILWAY AND LOCOMOTIVE HISTORICAL SOCIETY

OCTOBER, 1955



BULLETIN No. 93

COPYRIGHT 1955

BY THE RAILWAY & LOCOMOTIVE HISTORICAL SOCIETY, INC.

ISSUED BY

THE RAILWAY & LOCOMOTIVE HISTORICAL SOCIETY, INC.

BAKER LIBRARY, HARVARD BUSINESS SCHOOL

BOSTON, MASSACHUSETTS

OCTOBER, 1955

Price for Members \$2.00

Price for Non-Members \$3.00

CONTENTS

Steam-Engine Whistle	6
Frank H. Spearman—The Zane Grey of Railroading	7
The Pittsburg, Shawmut and Northern, and All Associated and Predecessor Roads	11
Our Rooms in the Baker Library	66
The U. S. R. A. Locomotives	73
Logging Railroads of Northern Minnesota	94
The Wabash	115
Wilhelminastraat 59, Haarlem, Holland	121
Worth Reading	126
New Books	135
In Memoriam	139

The Railway and Locomotive Historical Society

Officers and Directors

- CHAS. E. FISHER, *President*
20 Wilde Road, Waban (68), Mass.
D. W. YUNGMEYER, *Vice President*
7049 South Clyde Ave., Chicago (49), Ill.
HAROLD D. FORSYTH, *Secretary*
P. O. Box 42, West Lynn, Mass.
HOWARD F. GREENE, *Financial Secretary*
44 School St., Boston (8), Mass.
GEO. P. BECKER, *Treasurer*
53 Westmoreland Ave., Longmeadow, Mass.
GILBERT H. KNEISS, *Resident Vice President*
18 Forest Lane, Berkeley, Calif.
JOHN W. MERRILL, *Curator Emeritus*
148 State St., Boston, Mass.
DR. ARTHUR H. COLE, *Director*
Baker Library, Harvard Business School, Boston, Mass.
W. R. FOGG, *Director*
26 Monadnock St., Boston (25), Mass.
H. LINCOLN HARRISON, *Director*
29 Elm Street, Worcester, Mass.
ROBERT C. SCHMID, *Director*
266 Maitland Ave., West Englewood, N. J.
ROGERS E. M. WHITAKER, *Director*
14 Sutton Place, South, Apt. 8D, New York, N. Y.

Resident Directors

- G. W. BISHOP, *European*
12 Queen's Road, Kenilworth, Warwickshire, England
D. L. JOSLYN, *Western*
2164 Castro Way, Sacramento (17), Cal.

Resident Vice-Presidents

- WM. T. GAYNOR, *New York*
1206-466 Lexington Ave., New York (17), N. Y.
ALEXANDER L. H. DARRAGH, *Mid-Western*
1314 Bedford Road, Grosse Pointe Park (30), Michigan

Representatives

- ALFRED W. JOHNSON, *Mid-Western*
5843 West Huron Street, Chicago (44), Illinois
G. M. BEST, *Pacific Coast*
511 N. Sierra Dr., Beverly Hills, Cal.
ROBERT R. BROWN, *Canadian*
731 42nd Avenue, Lachine, Quebec, Canada
D. S. BARRIE, *British*
20 Buckingham Ave., Whetstone, London, N. 20, England
CARLTON PARKER, *Exchange Manager*
25 Woodward St., Newton Highlands (61), Mass.

The Railway and Locomotive Historical Society

Chapter Officers

NEW YORK CHAPTER

JOHN GIBB SMITH, JR., *Chairman*

99 N. Grove St., Freeport, L. I., N. Y.

ROBERT C. SCHMID, *Vice Chairman*

CARL F. GRAVES, *Treasurer*

EDWARD COLGAN, *Secretary*

P. O. Box #434, Grand Central Annex, New York (17), N. Y.

CHICAGO CHAPTER

JOHN M. SHEPARD, *Chairman*

4340 Cottage Grove Ave., Chicago (15), Ill.

JOHN F. WILDE, *Vice Chairman*

JOHN LEAMY, *Treasurer*

DAVID OWEN DAVIES, *Secretary*

1214 North LaSalle St., Chicago (10), Illinois

PACIFIC COAST CHAPTER

FRED A. STINDT, *Chairman*

1414 Aberdeen Dr., San Mateo, Cal.

G. M. BEST, *Vice Chairman*

FRANK RIGNEY, *Vice Chairman*

J. E. TURNER, *Treasurer*

EDWARD T. PLANER, *Secretary*

469 Crescent St., Oakland, Cal.

NORTHERN INDIANA CHAPTER

JOHN W. BREWER, JR., *Chairman*

423 West 3rd St., Mishawaka, Ind.

GLEN S. MOE, *Vice Chairman*

HAROLD E. ZILLMER, *Treasurer*

J. HAROLD KIRACOF, *Secretary*

Box 19, Osceola, Indiana

SOUTHERN CALIFORNIA CHAPTER

WALTER H. THRALL, JR., *Chairman*

10405 E. Cliota St., Whittier, Cal.

ALVIN A. FICKEWIRTH, *Vice Chairman*

DONALD DUKE, *Secretary-Treasurer*

2304 Melville Drive, San Marino, Cal.

Committee in Charge of Publications

J. W. Smith

[5]

not universally liked at the time but, in retrospect, one must admit that these well designed locomotives served as models of those to come in the years that followed. Our member William D. Edson has presented an interesting paper and the tables that accompany are bound to be of value to those that collect this data.

Frank P. Donovan, Jr. has paid a well deserved tribute to Frank H. Spearman, the famous author of railroad stories and Dr. C. F. H. Allen's final installment on the Pittsburg, Shawmut & Northern appears in this issue. And lastly, your editor has given you a brief sketch of the Wabash R. R. and its locomotives. We hope that our members will find something of interest and enjoy this issue.

Steam-Engine Whistle

BY MINNIE HITE MOODY

Listen, my grandson—just beyond the hill

It lifts its lonesome voice and wails once more.

A sound with heartbreak it in, tired and shrill:

A sound a million boys have heard before,

And in the nighttime they have raised their heads

Just as you're doing now, and felt a strange

Wonder catch hold of them in their safe beds,

Till the sound sped far off and out of range.

It was a sound to part the buffalo grass

Long years ago; a sound with history in it.

Baltimore, Kansas City, Donner Pass. . . .

Listen, my grandson, listen for a minute,

And then remember always, if you can.

It will be gone forever, when you're a man.

Reprinted by special permission of the Ladies' Home Journal.
Copyright 1954 The Curtis Publishing Company.

Frank H. Spearman

The Zane Grey of Railroading

BY FRANK P. DONOVAN, JR.

The title looked familiar among the paper-bound reprints, and when I later saw the movie of the same name I knew it was the *Whispering Smith* I read as a boy. Any book which commands a large sale for almost a half century has great popularity and/or considerable merit. Frank H. Spearman's *Whispering Smith* had both. It was twice filmed in the silent pictures and was recently featured in a Paramount production starring Alan Ladd. A best-seller in 1906, the frontier novel of western railroading recently went through a 300,000-copy reprint and sold like hot cakes.

Indeed, Frank Spearman may be called "The Zane Grey of Railroading." He excelled in "westerns" depicting the nerve, loyalty and ingenuity of the American railroader. Never employed by a railroad, he, however, wrote stories of the industry which are regarded as classics. And they still pop up in anthologies, although some of the yarns were penned before the turn of the century. As one reviewer put it, the glaring difference between his western fiction and most of the others "is Frank H. Spearman's ability to write."

In some ways Spearman was as remarkable as his characters. The author who could turn out authentic, popular westerns also wrote a factual study of railroads which was used as a textbook at Yale. A convert to Catholicism, he penned two novels concerning the Holy Roman and Apostolic Church, both of which were favorably received. Finally, he wove a romance around the life of Don John of Austria, in which the setting is depicted every bit as accurately as the local color found in his stories on the mountain division of a "transcontinental" railroad.

"I used to call him 'the human sponge,'" related the late Timothy T. Keliher, retired chief special agent of the Illinois Central Railroad, "because he could listen for hours at a time to one and never make a note. I was with him a great deal, visited at his home for a week at a time. I never did see him make a single note while listening to the narrative of those he was interviewing, but he could go home to his study and write or dictate all he had heard, word for word."

Here, perhaps, was the secret of his success in accurately portraying even the minutest of details. Often it is the little things which give a novel the ring of authenticity. Spearman was not only a keen observer but also had an uncanny knack of drawing out the feelings and the objectives of the men he was interviewing. To quote Keliher again, "Just a few polite and nicely phrased questions, and they told him all they knew—and some things their grandfathers knew."

A frail man, never in good health, Spearman was at his best in recounting the exploits of robust locomotive engineers, stalwart brakemen and muscular, quick-on-the-draw cowboys. Refined, quiet-mannered product of the East, he moved to the West out of necessity, and wrote

about westerners by choice. A person of great versatility and many talents, whatever he did, that job was done well.

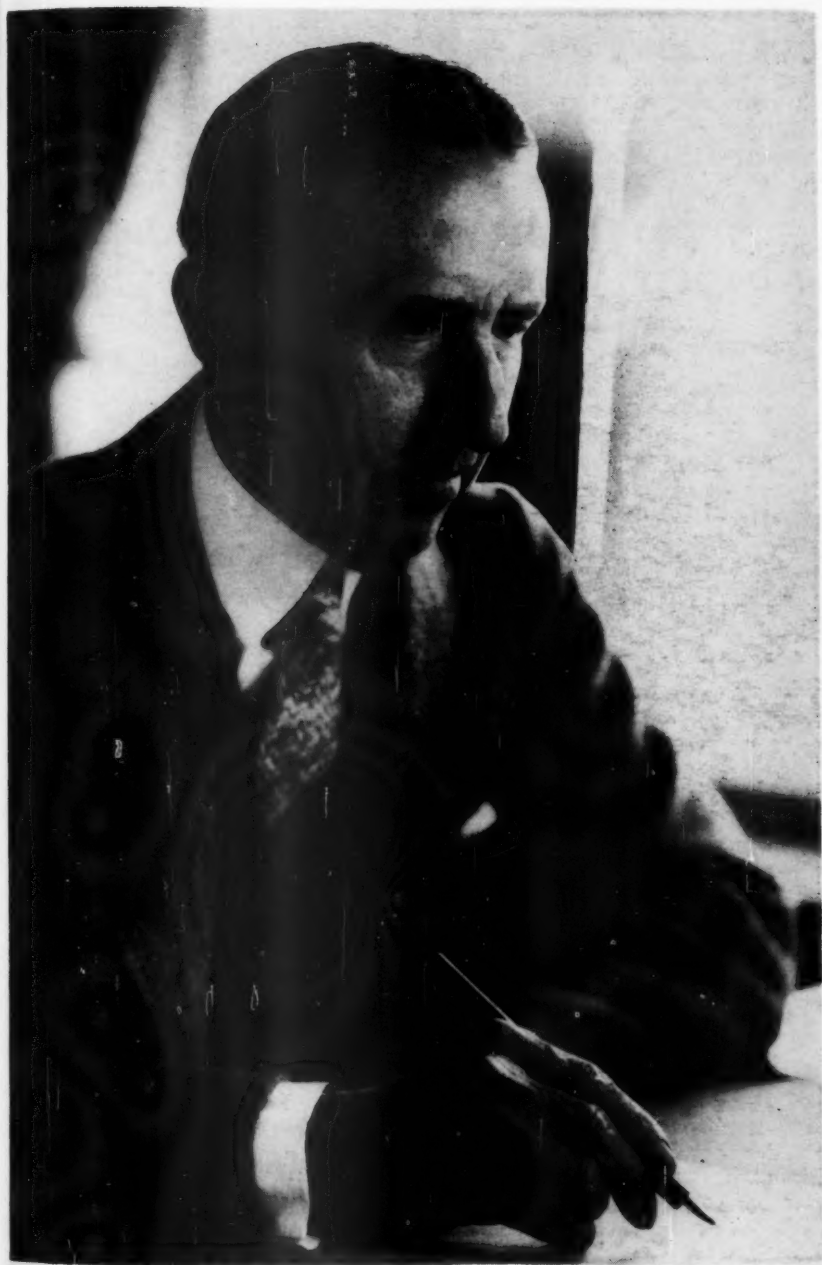
Born in Buffalo, New York, in 1859, the Spearmans soon moved to a small town in Michigan, and later to Appleton, Wisconsin. After a year in Lawrence College in the latter community young Frank's father died, and he was on his own. His first job was with a wholesale grocery house in Chicago; later he became a salesman. Ill health made it necessary for him to move to a dry climate, and he spent several years in McCook, Nebraska. Here he became a bank cashier at twenty-seven and bank president at twenty-nine. But Spearman always had a yen to write, and write he did. It started with an article on his local community, dispatched to *Harper's Magazine*. A check for one hundred dollars in payment for the manuscript was the incentive he needed. From that time on Frank Spearman turned to his pen as an amateur, then semi-professional and, finally, professional author.

In his work at the bank Spearman had many dealings with railroaders since McCook was a division point on the Burlington. Between runs enginemen and trainmen would sit on the veranda of the local hotel and recount their experiences on the road. Frequently the banker stopped to visit. Spearman liked railroaders and they liked him. He used to repeat these tales at the dinner table, amusing his wife and children. Finally his wife suggested he put them down on paper, adding that if they were as interestingly written as he told them, he would find a ready market. He did. One after another they appeared in *Harper's Round Table* and later in *McClure's Magazine*. So popular were the stories in the former periodical they were put into a book called *The Nerve of Foley*, published in 1900. The following year the *McClure's* selections appeared in *Held For Orders*, his second volume.

From the short story it is only a step to novels. That step came with *Doctor Bryson*, a novel of a Chicago eye-surgeon, in 1903. It was moderately successful. The next year Spearman returned to his old love, the railroad, with a romance titled *The Daughter of A Magnate*. Previous to publication in book form the novel appeared serially in *The Saturday Evening Post* under the name of "The President's Daughter." Beginning as the lead feature with a cover sketch announcing the series, the story proved very popular. Spearman had arrived.

The versatility of Frank Spearman was further evinced when the *Post* ran his factual articles on the growth and management of the largest railroads. The "railroad series" started in January 16, 1904 with an attractive cover-drawing by J. J. Gould. The ten articles in the series created much favorable comment and established Spearman as an authority on the subject. Subsequently incorporated into a volume called *The Strategy of Great Railroads*, the work was regarded as a classic in its field. At one time used as a textbook at Yale, the volume is still consulted by railroad writers although it has long since gone out of print.

In the latter part of 1905 Spearman, in quest of new material for a novel, stopped at Cheyenne, Wyoming, and was directed to Timothy T. Keliher, then a special agent for the Union Pacific. Keliher had a very unusual assignment. It was to rid the railroad of train robbers who had their hideout in the Hole-in-the-Wall Country of central



Frank H. Spearman

Courtesy The Rev. A. D. Spearman

THE SATURDAY EVENING POST

An Illustrated Weekly Magazine
Founded A. D. 1728 by Benj. Franklin

JANUARY 16, 1904

FIVE CENTS THE COPY



DRAWN BY J. J. GOULD

Beginning Frank H. Spearman's Railroad Series

THE CURTIS PUBLISHING COMPANY, PHILADELPHIA

Drawing by J. J. Gould. Reproduced by special permission
of the Saturday Evening Post. Copyright 1904 by
Curtis Publishing Company.

Cover of THE SATURDAY EVENING POST which inaugurated Spearman's very popular articles on American railroading. The series was later embodied in his book THE STRATEGY OF GREAT RAILROADS.



The town of Medicine Bend, built in about six weeks on five acres of Paramount back lot, for picture "Whispering Sn. th." Horses are used by Whispering Smith's Posse to rid railroad of outlaws who wreck trains and loot cars.

Credit: Paramount Pictures



Alan Ladd (left with chin strap) as Whispering Smith. All rolling stock used in making motion picture was purchased by Paramount from the Virginia & Truckee Railroad.

Credit: Paramount Pictures

Wyoming. The notorious "Butch" Cassidy gang, in particular, terrorized the state by holding up trains, dynamiting banks and robbing stages. In their mountain hideouts, the gang had always evaded capture.

To track down these desperadoes Tim Keliher organized the Union Pacific Mounted Police, every bit as fearless as the famed Canadian "Mounties." The railroad police had their headquarters in a baggage car. The men slept and ate in the car and stabled their fast, tough ponies in the other end. The posse included three of the best trackers in the West and seven rangers chosen for their skill with the rifle. When a hold-up occurred the car was quickly moved by special train to the scene of the robbery. Planks were then lowered to the ground and horses carrying men with six-shooters galloped out to round up the gunmen. Keliher's men were such crack shots they so awed the outlaws that there wasn't another train robbery on that part of the Union Pacific for twenty years!

Keliher was modest about his achievements, but Spearman in his polite, tactful way, soon drew out the whole story. It did not take the novelist long to create a hero based on the Union Pacific's young, six-foot special agent. But the name of the leading character—that was a stickler. Tim Keliher went on to give credit to U. S. Deputy Marshal Joe LeFors, a gun-handler never equaled in that country, in bringing law and order to Wyoming. The marshal, for all his courage and virility, explained Keliher had a low, quiet way of talking. He spoke almost in a whisper. That was Spearman's cue. After some reflection, he selected Whispering Smith as the title for his book and the name of its hero. Essentially, however, Whispering Smith is a composite of western types taken from real life and put into the novel.

Whispering Smith has its setting on the UP when "the Union Pacific was the West and the West was the Union Pacific." McCloud, the new division superintendent fires Murray Sinclair, the wrecking boss, for looting smashed freight cars. Sinclair takes to the hills with a band of picked men and begins a reign of terror against the line's mountain division. Whispering Smith is called in, and with a posse of men, after several desperate encounters, succeeds in capturing the outlaws. The novel is a swift-moving "western," filled with train-wrecks, gun-play and a double love interest. At the same time, "It is extremely well done," to quote one reviewer.

After *Whispering Smith* came a dozen other novels, mostly westerns, which had a wide reading public. None had quite the popularity of his ace trouble shooter on the Union Pacific although *Nan of Music Mountain*, a western romance, made the best-seller list in 1916.

His novels of the west have been likened to those of Owen Wister and Eugene Manlove Rhodes in that they have a distinct literary value and show the marks of skilled craftsmanship. Spearman helped elevate the western from a cheap, poorly-written, blood-and-thunder story to a novel of good taste, restraint and fidelity to detail. All his stories are clean and wholesome. Because of these qualities and his contribution to American letters, Frank H. Spearman was bestowed the Laetare Medal by the University of Notre Dame in 1935. He also received honorary degrees from Notre Dame, Santa Clara and Loyola universities.

The balance, organization and careful planning evinced in his writings stem from a well-adjusted, fruitful life. At the age of twenty-five Spearman married Eugenie A. Lonergan. The couple lived to celebrate their golden wedding anniversary with their four children. Their devotion to each other was epitomized in the bride's wedding ring, which bore the inscription "Then as Now." Fifty years later he added "Now as Then."

While fame and monetary rewards came to Spearman, he remained modest and retiring. Thrifty, prudent and practical, he realized a modest fortune from his writings and succeeded in having many of his stories made into motion pictures. During their later years the Spearman's resided in a beautiful home in Hollywood. On the other hand, neither were spared ill health. Often one or the other became sick, and they would faithfully take turns in caring for each other.

While writing the moving novel, *Robert Kimberly*, his wife lay suffering in bed only a few feet from his desk. Notwithstanding this handicap, Spearman finished the book and dedicated it to her in appreciation of the religious inspiration she gave him. The story dealing with a convert to the Catholic faith, is told with charm and simplicity. Much the same theme runs through his later novel, *The Marriage Verdict*, issued in 1923. There is little doubt that Spearman's reverence for the Church gave him peace of mind and spirit during the years that witnessed world war destruction of much of our civilization.

When Spearman died in 1937, he had published nineteen books, including two volumes of short stories and one factual study. About a dozen of his stories appeared in the movies, most of them concerning railroad themes, for which he is best known. Fifty-six-inch drivers on ten-wheel engines, which he describes in his most famous tale, "The Yellow Mail Story," seem as out-of-date as silent pictures. On the contrary, a well-told story is timeless. Jimmie-the-Wind pulling the test run of the U. S. Mail continues to race through book after book, from the time it was first penned at the turn of the century to the present day. It won a place in the *World's One Hundred Best Short Stories*, published in 1927. In more recent years it was accorded the lead selection in *Headlights and Markers*, an anthology of railroad stories.

Because of his skill, literary talents and intimate knowledge of railroading Spearman may be regarded as the dean of railroad authors, certainly of railroad fiction writers. He was not the first to blaze the trail of railroading in story, being preceded by Herbert E. Hamblen and having been more or less contemporary of Cy Warman, Francis Lynde, Frank L. Packard and others. Nor is he the last of the writers in this category. A. W. Somerville, Harry Bedwell and a few more have carried, or are carrying, on the tradition. But when it comes to versatility in portraying the railroad in short story, in the novel and in factual works Frank H. Spearman is an acknowledged master. It is unlikely that he will ever have a successor for the field of railroad writing is now generally divided between those who write fiction and those who write fact. The factual writers are on the increase, the "fictioneers" are a diminishing lot, and those who write with equal facility in both fields are virtually nonexistent.

The Pittsburg, Shawmut and Northern, and all Associated and Predecessor Roads

Part II

BY CHARLES F. H. ALLEN

Foreword by the Editor

In Bulletin 92 appeared the first part of this paper covering the formation of the early companies, their construction and their financial troubles. The paper ended with the activities of the Central New York & Western R. R. Co. and this paper continues from that point.

The Saint Mary's and Southwestern Railway Co.

The extension of the New York, Lake Erie and Western Coal and Railroad Co. into the coal areas of McKean and Elk Counties of Pennsylvania in the 1880's has been described in the R. & L. H. S. Bulletin No. 76. A portion of this, extending from Brockway to Shawmut, was known as the Brockport and Shawmut, and tapped a coal mining region at the latter point. There were a number of lumber roads in the vicinity which undoubtedly contributed an appreciable quantity of freight to this forerunner of the Erie, and which were, of necessity, friendly to it. Hence, it was not surprising to find a lumber road incorporated and converted into a common carrier.

The Saint Mary's and South Western (thereafter Southwestern) Railway Co. was organized on June 19, 1893, under the laws of the State of Pennsylvania, with a capital stock of \$300,000 (of which \$52,875 was paid in the first year), to build a standard gauge road from St. Marys to Hyde, 20.64 miles. The officers and directors were as follows: President, B. Frank Hall, of St. Marys, V. P., J. Henry Cochran, of Williamsport, Sec'y, J. K. P. Hall, of St. Marys, Treas., G. C. Simons, of St. Marys, and W. H. Hyde, of Ridgway, Andrew Kaul (Gen. Mgr.), John Kaul and B. E. Wellendorf (Chief Engineer) all of St. Marys. John Kane, of St. Marys, was elected as a new director, in 1896.

The Halls, Kauls and Hydcs dominated politics (Democratic Party) in Elk County for many years.

Joseph Smith Hyde was born in Tamworth, N. H. in 1813. He first went to Ridgway in 1837, becoming a permanent resident in 1846; he died in 1888. His son, William H. Hyde, became a state senator; he was also active in the Ridgway mills. W. H. was president of the Clarion River Ry. and a director of the St. Marys and Southwestern. His sister married James K. P. Hall.

There were five brothers Hall born in Clearfield County and descended from Anthony Carner who settled there after the American Revolution: John (law), James K. P. (law), William (physician), B. Frank (civil engineer), and Harry A. (law). Of these, James K. P.

appears to have had the most connections with railroads; he was president and director of the New York, Lake Erie and Western Coal and Iron Co., in 1892, and of the Brockport and Shawmut, of the unorganized Brockwayville and Daguseahonda, the Daguseahonda and Elk, the Crawford Jet. and McKean; and of the Kersey Railroad; sec.-treas. of the Clarion River Ry., and secretary of the Buffalo, St. Marys and Southwestern during its short life. He was also a U. S. senator from Pennsylvania.

B. Frank Hall was president of the St. Marys and Southwestern, and of the succeeding Buffalo, St. Marys and Southwestern. Harry A. was the solicitor for the St. Marys and Southwestern, the Buffalo, St. Marys and Southwestern, and of the Clarion River. He was at one time a U. S. district attorney in Pittsburgh. He was decorated by Emperor Franz Joseph of Austria for his meritorious handling of certain Austrian affairs. He was captain of the militia company from Ridgway during the Spanish-American War, serving in Puerto Rico.

Andrew Kaul was a director of the Clarion River, vice-president and general manager of the Kersey, and director and general manager of the Buffalo, St. Marys and Southwestern. John Kaul was a director of the latter and of the Kersey Railroads.

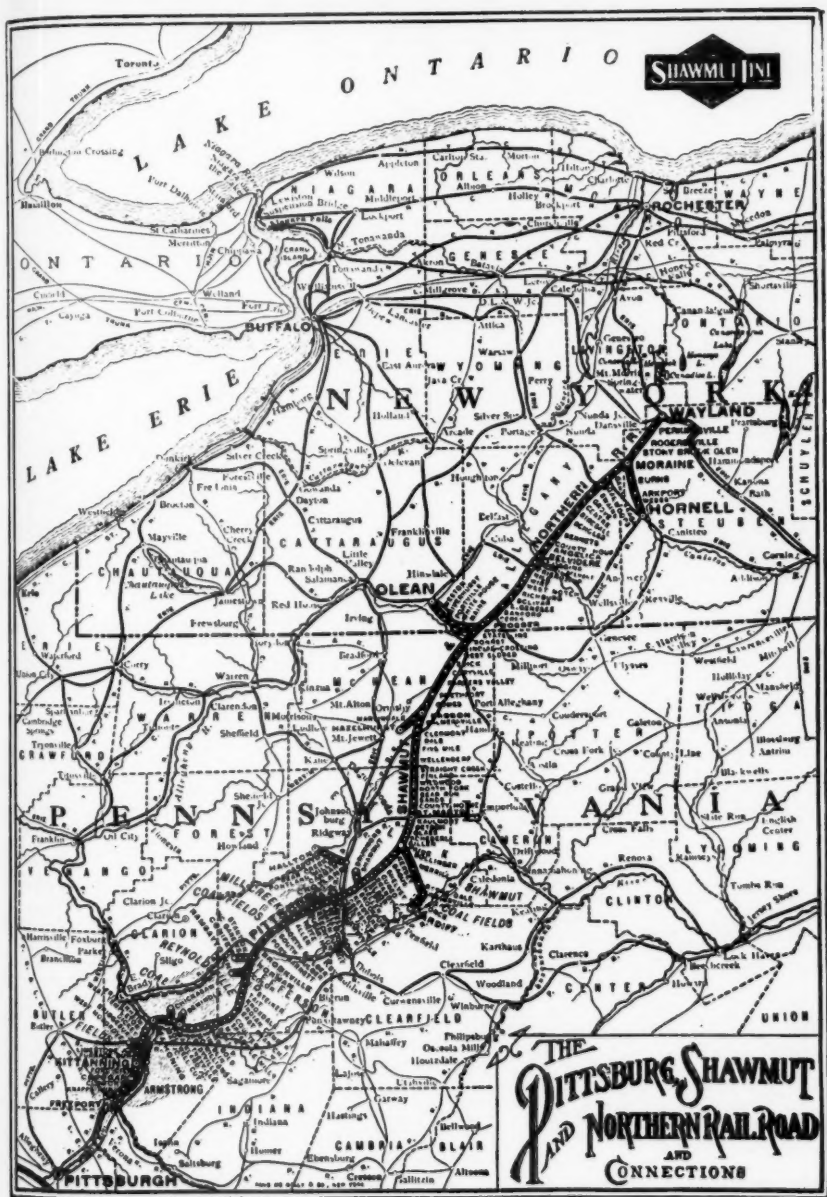
Of the others, Simons was a director of the Kersey R. R., and treasurer of the Buffalo, St. Marys and Southwestern. Wellendorf was a director of the latter, and chief engineer and general superintendent of the Clarion River.

The first year ten miles were constructed and operated, between the junction with the P. R. R. (Philadelphia and Erie) in St. Marys Centreville. This section had one trestle 650 ft. in length. The cost of the road was \$123,172.14 and of the equipment, \$106,802.68. The rolling stock comprised one locomotive, two passenger cars, and 250 freight cars. There were 20 employees; the salaries paid, including those of the officials, amounted to \$22,763.76.

During 1894-1895 the road was extended from Centreville to Hyde, 11.12 miles. A line from Brockport to Horton City (2.41 mi.), essentially parallel to the Brockport & Shawmut R. R. (Erie), and terminating at Drummond, 1.26 miles beyond, where there were extensive coal mines, had been planned. However, trackage rights over the Erie were arranged between these two points (for terms, see Bull. No. 76); after the consolidation of the St. M. S. W. into the Pittsburg, Shawmut and Northern, in 1899, these rights were continued. There was no physical connection between this isolated segment (Horton City to Drummond) and the rest of the Shawmut system.

The road was apparently a moneymaker. This data is given in the 1896 Poor's. There were 12,838 passengers carried, and they paid \$2,036 for this service. The freight moved was 76,133 tons, receipts for carrying which came to \$15,183. "Other earnings" amounted to \$50,761—it would be interesting to know what this item was. The net income was \$41,946, and the total surplus at this time was \$48,156.

There were 5 locomotives in 1894, but only 2 in 1896. A Shay locomotive, road number 10 (builder's number 461) was acquired on May 24, 1894. This would imply nine predecessors; perhaps there were a



Map of Complete Shawmut System

o HO! o

FOR

THE SHAWMUT OPENING

GRAND LOW-RATE

EXCURSION

TO

ST. MARYS

THE METROPOLIS OF ELK COUNTY

VIA NEW SHAWMUT LINE,
Including the Great Loop-de-Loop.

Sunday, Oct. 25, 1903

The foliage at this season of the year is at its height in autumnal grandeur and beauty. Take your first trip over the New Line. You cannot find a more picturesque ride east of the Mississippi River.

LOOP-DE-LOOP is one of the most marvelous pieces of railroad construction of the twentieth century. You have heard about it. Here's your opportunity to see it.

Train Schedule and Rates

STATIONS	A. M.	FARE	STATIONS	A. M.	FARE
Lv. Olean	9.00	\$1.25	Farmers Valley	10.20	1.25
Westons	9.11	1.25	Smethport	10.41	1.00
Gordons	9.15	1.25	Kasson	10.58	1.00
Portville	9.19	1.25	Loop-de-Loop		1.00
Watchouse	9.25	1.25	Palmerville	11.09	1.00
Maine	9.27	1.25	Clermont	11.21	.75
Bulls Mills	9.42	1.25	Wildwood	11.56	.50
Eldred	9.50	1.25	North Fork	12.10	.50
Larabee	10.07	1.25	Arr. St. Marys	12.59	
Co.ville	10.14	1.25		P. M.	

Returning train will leave St. Marys at 3.00 P. M.

NOTICE--Regular train service between St. Marys and Olean will be established, Monday, Oct. 26, daily except Sunday.

Through Trains, without change, on the following Schedule:

Lv. St. Marys	7.25	A. M.
Arr. Olean	10.15	"
Lv. Olean for Smethport and Mt. Jewett	9.35	"
Arr. Smethport	11.23	"
Arr. Mt. Jewett	12.10	P. M.
Lv. Mt. Jewett for Olean	1.10	"
Lv. Smethport " "	1.59	"
Arr. Olean	3.30	"
Lv. Olean for St. Marys	5.42	"
Arr. St. Marys	8.56	"

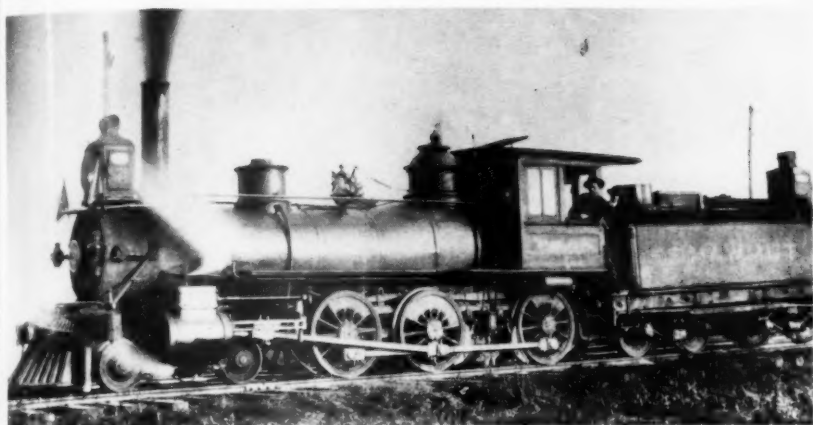
D. F. MARONEY,

Vice President, N. Y. & P. R. R.

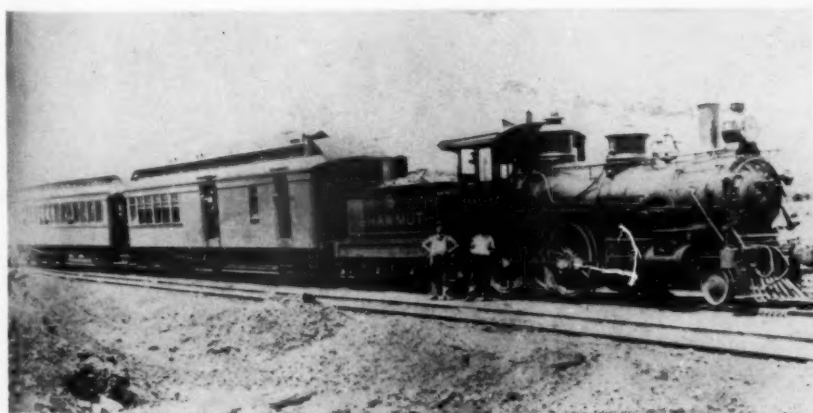
C. J. RENWICK,

Gen'l Pass. Agent.

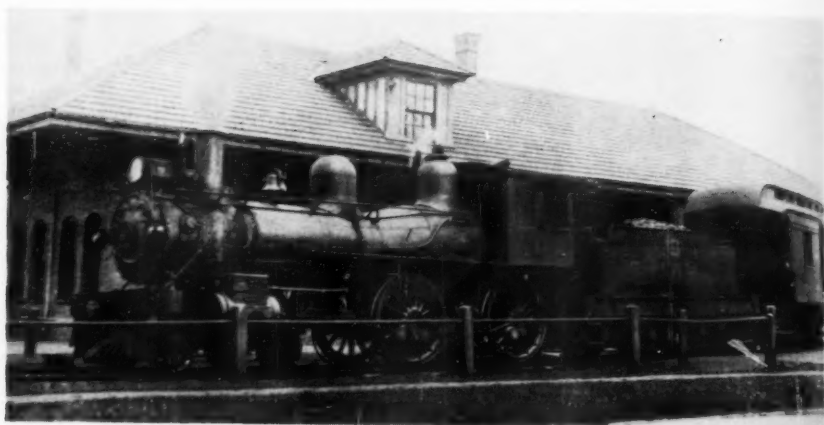
Notice of a Shawmut Excursion in 1903



P. S. & N. #3, ex-P.R.R. Class G-2, 18x22" x 50"



P. S. & N. #8. Cooke 1886. 16x24" 63"



P. S. & N. #9 at Olean, N. Y. Cooke 1886. 16x24" 63"



P. S. & N. #11. Brooks 1890. 17x24" 62"

Courtesy D. H. Kirkwood

number of old engines left from the previous logging roads. At any rate, in 1897 it is to be noted that Brooks delivered to them a 2-8-0 type engine, road number 7 (builder's number 2663); 20x26 cyl., 51" drivers, 180 lb. boiler pressure). This engine was renumbered 44 in the Shawmut system, and scrapped in 1924.

The Halls, Kauls, Gardners, and Hydes had wide lumber interests. They operated companies under several names in Pennsylvania, West Virginia, and Alabama. A Hall, Gardner Co. was in operation in the Hallton, Pa. area until 1910, the mill being run by a Mr. Sharp; he then moved the machinery to Gardner, West Virginia. He also, at an unknown date, purchased tracts of lumber in Alabama (Black Warrior?) and moved there. There may be also a (unestablished) connection with H. S. Thayer and Son, who, Mr. Golden believes, had active lumber interests in the south, but who came from Ridgway, Pa. A roster of the Shay engines, used by the Hall & Kaul lumber companies, is included in this section; the data was supplied by Messrs. Wood and Fisher. The roster is obviously incomplete because there are photographs of No. 70 (a mill engine) and No. 71 (a road engine) which are not in the above list. On the back of the original picture of No. 70 is written "first engine overhauled for Kaul & Hall Lumber Co., 1902." The four engines in one picture were at St. Marys in 1910; their numbers are not legible. Two Thayer Shays have been included in the roster, although as yet no connections have been established between this company and the Hall-Kaul companies. Mr. Wood also found a Baldwin 2-6-2, Constr. No. 30297 (2-1907), 16x24, 44" drivers which was Kaul Lumber Co. No. 8.

Mr. Clyde L. Collum reports that there were three other short roads having many of the same officials, the St. Marys and Eastern, St. Marys and Western, and Portland and Northern. G. C. Simons was the secretary-treasurer of them all, Andrew Kaul was the president of the St. Marys and Eastern, John Kaul of the St. Marys and Western, and J. K. P. Hall of the Portland and Northern, while F. A. Paul was a director of the first two, and Harry R. Hyde of the last. The St. Marys and Eastern, (org. 7-6-10, 6.33 miles) ran down the same valley as the Penna. R. R. as far as Beechwood and Rathbun, northeast of St. Marys towards Emporium, and thence to Bear Run and North Fork. The St. Marys and Western (org. May, 1904; 20 miles with branches), ran both east and west. The western end extended from near Elk Home almost to Johnsonburg, while the eastern extension ran along Trout Run. The Portland and Northern, (org. 12-27-00, 12.25 miles with branches) ran from Portland Mills along Bear Creek, almost north, into the township of Highland.

Roster of Standard Gauge Shay Engines, Lima Built

C/N	Date	Cyls.	DD	Disposition and Road Number
284	4-28-90	10x11	28	J. E. Potts Salt & Lumber Co. 3' gauge. Kaul & Hall, and widened to standard gauge. M. J. Corbett Chemical Company. Delta Chemical Co. Wells, Mich. Scrapped 8-22-1928
324	10-90	9x8	26	Portland Lumber Co. #2.
461	5-93	15x14	39	St. Marys Southwestern #10. Boston Consolidated Mining Co. Bingham, U. Carlisle-Pennell Lbr. Co. Onalaska, Wash.
530	5-29-97	11x12	32	Hall & Kaul Lumber Co. #23. Northwestern Equipment Co., Portland, Ore. Winchester Bay Lbr. Co., Reedsport, Ore.
577	9-6-99	13x13	32	J. & A. Kaul #17. (Tuscaloosa, Ala.) Natalbany Lbr. Co. Louisiana. (1928)
748	1-20-03	12x15	33½	Kaul & Hall Lbr. Co. #73. Central Leather Co. Scrapped 2-1929.
886	6-25-04	12x15	36	Kaul Lbr. Co. #5. (Birmingham, Ala.) Finkbine Lbr. Co. (Wiggins, Miss.) Wilde Lbr. Co. #10. 3-1931.
1533	7-05	10x10	28	G. W. Gates Lbr. Co. #2. Kaul Lumber Co. (Tuscaloosa, Ala.)
1617	12-05	12x12	32	Kaul Lumber Co. #6. (Tuscaloosa, Ala.)
1714	7-06	12x15	33½	Kaul & Hall Lbr. Co. #74. Uvalde Rock Asphalt Co. #124. Blewett, Tex.
2090	1-08	12x12	32	Kaul Lbr. Co. #9. (Tuscaloosa, Ala.)
2543	7-12	10x12	29½	John Heilman Lbr. Co. #2. Kaul Lbr. Co. (Tuscaloosa, Ala.)
3062	4-20	12x12	32	Kaul & Hall Lbr. Co. #14. (Tuscaloosa, Ala.)
547	2-3-98	10x12	29½	Thayer Lbr. Co. #97. (Muskegon, Mich.) Calderwood Lbr. Co.
864	7-2-04	10x12	29½	Thayer Lbr. Co. #9. (Thayer, Miss.) Williams Yellow Pine Lbr. Co. Miss.

Buffalo and St. Marys

The Buffalo and St. Marys Railroad Co. was incorporated on June 5, 1895, with a capital stock of \$300,000 to construct a line between St. Marys and Clermont, 23.82 miles. The directors were as follows:—B. Frank Hall, Andrew Kaul, John H. Kaul, B. E. Mittendorf, J. M. Schaefer and G. S. Simons, all of St. Marys, and J. K. P. Hall, of Ridgway.

The road was built in 1895-1896 and was operated from that date by the St. Marys and Southwestern, until the consolidation into the Buffalo, St. Marys and Southwestern, on Jan. 29, 1897.

Emporium and Mt. Jewett

The Emporium and Mt. Jewett Railroad Co. was incorporated on Oct. 28, 1895, with a capital stock of \$200,000, for the stated purpose of constructing and operating about 17 miles of railroad to extend from a point at or near Robinson Run station in Shippen Township, in Cameron County, to a point at or near the confluence of Wildcat Run and Marion Creek in Hamlin Township, in McKean County. The president was George J. Wolf, of Bradford. There was no construction. The two towns mentioned in the name are in the counties mentioned.

This road was consolidated with the Mt. Jewett and Smethport, on May 26, 1897, to form the Mt. Jewett, Clermont and Northern Railroad Co.

Smethport and Olean

The Smethport and Olean Railroad Co. was incorporated on Dec. 5, 1895, with a capital stock of \$400,000, for the stated purpose of constructing and operating about 18 miles of standard gauge railroad from Smethport to the N. Y.-Penna. State Line, all in McKean County. The officers and directors were as follows:—George J. Wolfe, James George, H. A. Jackson, A. G. McComb, M. J. Raub, and S. H. Smith, all of Bradford.

There was no construction, until after this line had been consolidated into the Pittsburg, Shawmut and Northern.

In 1900, 7.47 miles between Coryville and Smethport were built, presumably under the Smethport and Olean charter. The distance from Coryville to the State Line is 11.2 miles, and, after this had been built in 1910, was known as the "State Line Branch." Prior to this construction the Shawmut had trackage rights over the Pennsylvania between these points.

A. G. McComb was subsequently the chief engineer of the P. S. & N. and of the Kersey R. R. Co.

Buffalo, St. Marys and Southwestern

The Buffalo, St. Marys and Southwestern Railroad Co. was formed on Jan. 28, 1897, with a capital stock of \$1,000,000, by a consolidation of the Buffalo and St. Marys, and the St. Mary's Southwestern R. R. Cos. The officers and directors were as follows: President and Chairman of the Board, B. F. Hall; V. P. and Sec'y, J. K. P. Hall; Treas., G. C. Simons; Auditor, L. P. Snyder (not a director), Gen'l Mgr., Andrew Kaul, John Kaul, J. M. Schaefer and B. E. Wellendorf, all of St. Marys, and Solicitor, H. A. Hall (not a director), of Ridgway.

The main line extended from Clermont, where it had a connection with the Western New York and Pennsylvania R. R., to Hyde, 45.67 miles with a 1.92-mi. branch from Shawmut to Drummond. They had trackage rights over 6.17 miles, between Hyde and Brockwayville, from the Erie, and a 0.62-mi. branch to the St. Marys station, from the Pennsylvania R. R. They owned 5 locomotives and leased one; they owned 2 passenger, 1 miscellaneous, and 254 freight cars, and 3 cabooses. They had 144 employees. The first year the net earnings were \$75,236.

The new officers who were elected in 1898, showed the Shawmut influence; the offices were moved to New York.

The Brooks works sold three engines (Nos. 7, 9, 11) to the B. St. M. & S. W., in 1896-1897. Four heavy consolidations were ordered by this road from the Pittsburgh Locomotive Works; the first two were received in 1899, prior to the consolidation forming the Pittsburg, Shawmut and Northern, but all were numbered (40-43) in the P. S. & N. series. They had very large cabs and were considered huge at the time.

It appears that two old Pennsylvania R. R. engines were contributed to the new Shawmut Line by this road, but their previous history is shrouded in obscurity. They have been identified as old Philadelphia & Erie engines, as will be related later on. If their P. S. & N. numbers 1 and 3 were retained from the B. St. M. & S. W., one may draw the conclusion that the latter company used only odd numbers, viz., 1, 3, 5, 7, 9, 11. The one "leased" might have been No. 5, from the St. Marys Southwestern. The roster of Buffalo, St. Marys and Southwestern locomotives follows:—

No.	Source	Date	Constr. No.	Wheel arr.	Cyl.	Diam. Drivers	PS&N No.	Sc.
1	PRR, D-5			4-4-0	x	"	1	1906
3	PRR, G-2			4-6-0	18x22	50"	3	1905
5	Brooks	1897	2739	2-6-0	18x26	57"	20	12-31-28
7	Brooks	1896	2663	2-8-0	20x26	51"	44	12-31-24
9	Brooks	1896	2664	2-8-0	20x26	51"	45	7-1-25
11	Brooks	1897	2736	2-6-0	18x26	57"	21	12-31-24
40	Pittsburgh	1899	1974	2-8-0	22x28	50"	40	12-31-24
41	Pittsburgh	1899	1975	2-8-0	22x28	50"	41	12-31-24
42	Pittsburgh	1899	2006	2-8-0	22x28	50"	42	12-31-24
43	Pittsburgh	1899	2007	2-8-0	22x28	50"	43	12-31-24

After the dismantling of No. 9 the boiler was used as a stationary boiler in the St. Marys locomotive shop.

Mr. Lyons stated that the drivers on No. 7 and No. 9 were not properly counterbalanced, for when the engines attained a speed of about 35 mi. per hour, they bounced so much that the enginemen could not remain on their seats, but had to stand!

Mt. Jewett, Clermont and Northern

The Mt. Jewett, Clermont and Northern R. R. Co. was formed on May 26, 1897, by merger and consolidation of the Mt. Jewett and Smethport Railroad Co., whose line extended between Mt. Jewett and Gallup, and the paper Company, Emporium and Mt. Jewett. The capital stock was set at \$350,000. The officers and directors, all of Bradford, were as follows:— President, Benj. F. Hazelton; V. P. & Gen'l Mgr., Edwin F. Clark; Sec'y and Auditor, Franklin P. Hazelton; Treasurer, Edwin E. Tait, Charles D. Purple, W. C. Purple and Thomas P. Thompson, who was also a director of the Bradford & Western Pennsylvania.

The rolling stock comprised two locomotives, one passenger and 34 freight cars. There were 33 employees. The first year's earnings were \$2,083.

in-
M.
his
ed
nd
ey
ed
is
&
1
on-
5,
ys
co-

006
005
-28
-24
-25
-24
-24
-24
-24

ry
p-
ut
ot

on
nd
nd
he
of
&
n;
as
rn
nd
gs



The Kason Loop on the P. S. & N.

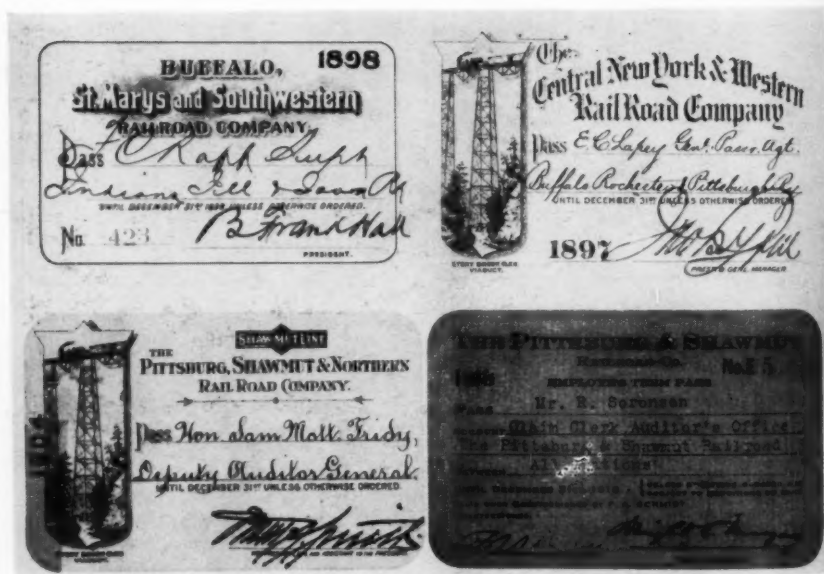


P. & S. Bridge over the Mahoning River



Shawmut Bridge over P. R. R. at State Line

Courtesy of David Field



A Group of Passes

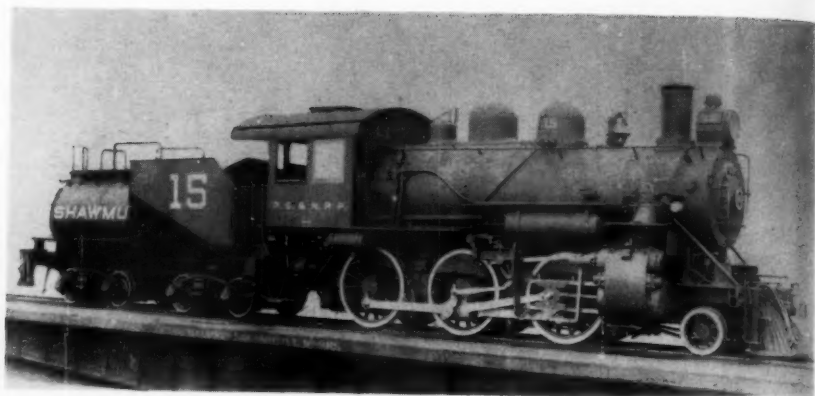


P. S. & N. #13 at Smethport, Pa.
Brooks 1889: 17x24" 62"

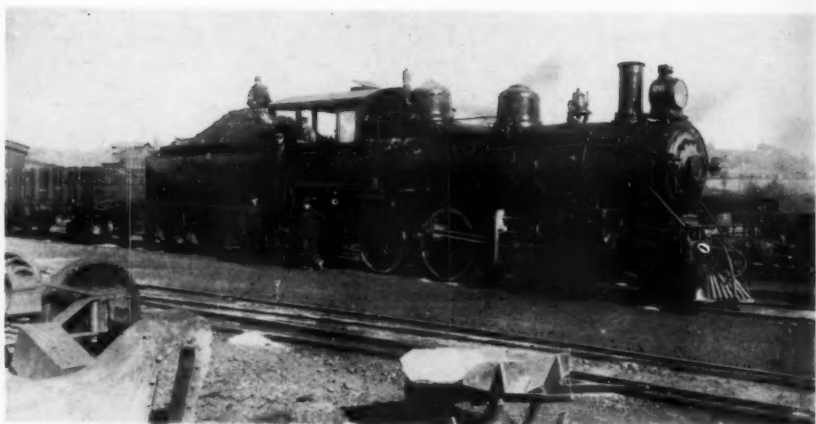
Courtesy C. L. Lathrop



P. S. & N. #14. Cooke 1886. 18x24" 55 1/2"



P. S. & N. #15. Baldwin 1913. 20x26" 63"



P. S. & N. #20. Brooks 1897. 18x26" 57"

This road had a very short life, becoming a part of the Pittsburg, Shawmut and Northern, in 1899.

Mill Creek Valley

The Mill Creek Valley Railroad Co. was organized by Shawmut interests, being incorporated on June 13, 1899, with a capital stock of \$3,750,000, to build and operate a standard gauge road between Hyde and Brookville, a distance of about 26 miles.

This was a paper company. There was never any construction, because the Pittsburg, Shawmut and Northern, during its entire existence, leased trackage rights between these points from the Erie.

Central New York and Northern

The Central New York and Northern Railroad Co. was incorporated on April 20, 1899, with a capital stock of \$1,500,000, to build from Perkinsville (or Portway) in Steuben County, via Canadice, 55 miles to Macedon and the West Shore R. R., with a 5-mile branch from Canadice to the Lehigh Valley, at Hemlock Lake. Of the 15,000 shares authorized, 600 were sold at \$100 each. The officers and directors were as follows: Pres., William M. Clark of Wayland, N. Y.; Vice-Pres., Ward J. Spofford, of Brooklyn; Sec'y, Simeon M. Ayers, of New York City; Treas., Harry M. Gough, of same; also George S. Bixby, Martin Kimmel, of Wayland; Egmont Mollenhauer of Jersey City, N. Y.; Frederic H. Mollenhauer of New York City; George Nold and Henry V. Pratt, of Wayland.

The stations on the new road were to be at Springwater, Canadice, Richmond, E. Bloomfield, Bristol, Canandaigua, Farmington and Macedon. On March 17, 1905, the *Buffalo Evening News* noted that the Pittsburg, Shawmut and Northern is expected to be extended this spring by way of Springwater, in Livingston County, through western Ontario and Wayne Counties to Pultneyville, on Lake Ontario, over the route surveyed in 1899. This alarmed the residents of Canandaigua, "who feared a loss of their business and importance," so Shawmut officials assured them the plans could be changed so the road would go to Canandaigua and then north through Shortsville, Manchester, and Palmyra. In spite of this there was never any construction by the Central New York and Northern, or the succeeding Pittsburg, Shawmut and Northern.

An extension of the Shawmut system, although proposed as the New England, Lackawanna and Pittsburg had never been realized. The original goal of Lake Ontario, with Wolcott and Pultneyville suggested as termini at various times, was replaced by a proposed connection with the West Shore R. R., at Macedon, probably due to the earlier experience with the Globe Fast Freight Line.

Pittsburg, Shawmut & Northern

As stated in the History of Corporate Financing, the Interior Construction & Improvement Co. had agreed to acquire all the outstanding capital stock of the Buffalo, St. Marys and Southwestern, The Mt.

Jewett, Clermont and Northern, The Smethport and Olean Railroad Cos., and the Clarion River Ry., and consolidate them with The Central New York and Northern and with The Central New York and Western, into the Pittsburg, Shawmut and Northern Railroad Co. The legal requirements were such that the roads in New York and those in Pennsylvania had to be consolidated separately into a single road in each state, after which the final union could be accomplished.

The Pittsburg, Shawmut & Northern Railroad Co. of Pennsylvania was a consolidation, on July 13, 1899, of the Buffalo, St. Marys and Southwestern; The Mt. Jewett, Clermont and Northern; The Smethport and Olean; and the Mill Creek Valley. The latter was included (by accident?) instead of the Clarion River.

Since the Pittsburg, Shawmut & Northern of Pa. was such a temporary organization, no attempt has been made to obtain a list of the officials. Its corporate existence was a matter of two weeks.

Central New York and Western

As a part of the consolidation plan, the Interior Construction & Improvement Co. consolidated The Central New York and Northern, and The Central New York and Western Railroad Cos. on Aug. 1, 1899, into the Central New York and Western Railroad Co. For the same reason as given above, there is no list of officials.

Pittsburg, Shawmut and Northern

The Pittsburg, Shawmut and Northern Railroad Co. was a consolidation, under the laws of the States of New York and Pennsylvania, of the Central New York and Western R. R. Co. of New York, and of The Pittsburg, Shawmut & Northern R. R. Co. of Pennsylvania, on Aug. 2, 1899, with a capital stock of \$8,500,000. The officers and directors, most of whose names are familiar, since they had held similar offices on the predecessor roads, were as follows:

President, John Byrne, of New York, (L. & S. W., A. & K., C. N. Y. & W., B. St. M. & S. W.); 1st Vice-Pres., Henry Marquand, of New York, (B. St. M. & S. W.); 2nd Vice-Pres., Frank Sullivan Smith, of Angelica, (both A. C. Roads, L. & P., A. & K., C. N. Y. & W., C. R., Klipnockie); Sec'y, Lewis F. Wilson, of New York, (C. N. Y. & W.); Treasurer, Harry M. Gough, of New York, (C. N. Y. & W., B. St. M. & S. W.); William F. Capp, of St. Marys, Wm. W. Clark, of Wayland, N. Y., (C. N. Y. & W.), Newell C. Knight, of Chicago, Frank B. Poor, of Hackensack, N. J., Frederick H. Ridgway, of New York, (C. N. Y. & W., No. Shawmut), Edwin E. Tait, of Bradford, (Mt. J. & S., Mt. J. C. & N., Kersey, B. & M., P. & S.), Guy Williams, of Friendship, (Klipnockie).

Henry S. Hastings, of St. Marys, was the auditor and assistant Treasurer, but not yet a director; he became president in 1920. He was treasurer of the Klipnockie, of the Northern Shawmut, and of the Brookville and Mahoning.

Mitchell S. Blair, of Hornell, was the general superintendent, while R. E. Cartwright of St. Marys was the general manager.

The P. S. & N., now known as the "Shawmut Line," leased the Rochester, Hornellsville & Lackawanna, and the Clarion River, and so operated 114 miles of road. They had trackage rights from the Erie of 4.85 mi. at Hyde (to Horton City), and 3.97 mi. at Brockport (to Erie Jet. in Brockwayville); 0.62 mi. from the P. R. R., at St. Marys Jet. (to the station at St. Marys); and 0.9 mi. from the Lackawanna at Mayland Jet. (to Wayland).

The Shawmut Line crossed and intersected with several trunk lines; the northern terminus at Wayland joined with the Lackawanna. The road paralleled the Erie near Friendship, where there was an interchange, as well as at Hyde and Brockport, in Pa.; the Hornell branch also connected with the Erie, in North Hornell. There was a switching connection with the Buffalo & Susquehanna (later the Wellsville & Buffalo) at Belvidere. They connected with the Pennsylvania (1) at Olean, by means of the right-hand leg of the Y-bridge; (2) at Larabee and at Coryville, until their construction was finished in 1911; (3) at St. Marys Jet. Finally, at Erie Jet. they joined the Pittsburgh & Shawmut, after it was built, to all intents and purposes, as a southern extension. They maintained an interchange with the Baltimore & Ohio at Dellwood, using the P. & S. tracks to reach that point.

In their first report on the new road, in 1902, the New York state inspectors reported that there was not much difference from their last Central New York and Western inspection, though most of the trestle at Swains had been filled. The section between Angelica and Swain was still poor and there was no new road. They had added 550 new 70-ton coal cars at a total cost of \$373,746.60. The Kersey Railroad had been leased. There were four iron bridges in N. Y. and three in Pa.; two wooden bridges in N. Y. and six in Pa.; and sixty-six wooden trestles in N. Y. and thirty-one in Pa.

Shawmut Connecting

The Shawmut Connecting Railroad Co. was organized on Aug. 1, 1900, to build a standard gauge, bridge road, connecting the two parts of the Shawmut Line from Olean Jet. (the name was later changed to Prosser) and the northernmost point of the Smethport and Olean at the N. Y.-Penna State Line. The first construction was from Olean Jet. to a connection with the Pennsylvania R. R., at SN Tower in Portville, a distance of 2.19 mi.; from this point the P. S. & N. had trackage rights to Coryville (11.5 miles) until Jan. 1, 1910, when their own line was finished.

On Jan. 20, 1905, the Shawmut Connecting R. R. was merged into the Pittsburgh, Shawmut and Northern, thus ending its corporate existence.

The completed Shawmut line (1910) passed over the Pennsylvania R. R., the state road, and the Allegheny River by a long trestle-like steel bridge; this is shown in a photograph taken by David Field. (Collection of H. V. Trice).

Northern Shawmut

The Northern Shawmut Railroad Co. was chartered on Jan. 14, 1903, with a capital stock of \$30,000 to build a two-and-a-half mile line from a point in Grove, near Swain's Jct., to Michael's Mills. The officers and directors were as follows: President, Frederick W. Frost, of Brooklyn, N. Y., Vice-Pres., Guy Wellman, of Friendship; Sec'y, Simeon M. Ayers, of Jersey City; Treas., H. S. Hastings, of Angelica, C. Walter Artz, Ferdinand J. Ficker, Henry F. Granger, Frederick H. Ridgway, all of New York, George C. Atkins, of Bayonne, N. J., and A. Miner Wellman, of Friendship.

There was never any construction.

Construction

At the time of consolidation, the physical property of the Pittsburg, Shawmut and Northern consisted of four isolated segments having no owned physical connection. These were (1) the Buffalo, St. Marys and Southwestern from Clermont to Hyde (45.67 mi.) with a 1.92-mi. line between Shawmut and Drummond. This portion was accessible by virtue of trackage rights from the Erie, while the incorporated Mill Creek Valley R. R. Co. allowed for future construction between Hyde and a point in Brockwayville. (2) The Mt. Jewett, Clermont and Northern from Mt. Jewett to Gallup (7.6 mi.). (3) The Central New York and Western R. R. from Olean to Bolivar (18 mi.) which was of 3-ft. gauge, and between Angelica and Wayland Jct. (35.8 mi.) which was standard gauge. They also had the abandoned narrow gauge right of way (23 mi.) between Bolivar and Angelica. (4) The (leased) Clarion River Ry. (12 mi.) between Croyland and Hallton. (5) The (leased) Rochester, Hornellsville & Lackawanna (9.2 mi.*) from Hornellsville Jct. to Hornellsville. The total mileage was 114.

The new management faced the immediate problem of improving the physical property, in particular of taking some action in regard to the filling of the long wooden trestle at Swains, and of improving the iron bridge at Stony Brook, both of which had been practically condemned at the last two inspections of the railroad commissioners of the State of New York. Furthermore, to make the road worthwhile, rail connections must be provided between the various isolated properties. Little encouragement could be expected from the Pennsylvania R. R., which had an essentially parallel line from Clermont to Olean; in fact, the Shawmut had trackage rights over the former McKean & Buffalo (Clermont to Larabee) and Western New York and Pennsylvania (Larabee to White House, N. Y., which was on the narrow gauge Olean-Bolivar line) for a decade. In addition, at this time the Olean Electric Ry. entered the picture, with a projected parallel interurban road between Olean and Bolivar. Although this was not initially welcomed by residents of the area, delays in widening the narrow gauge led them to alter their attitude and urge its completion.

* In most places this is given as 10.38 mi.

As mentioned under the History of Corporate Financing, the Interior Construction and Improvement Co. had made certain agreements, not only leading to the consolidation that formed the Shawmut, but also regarding new construction. These obligations were still in effect. The narrow gauge portion was to be widened, the abandoned link between Angelica and Bolivar was to be rebuilt, and extensions to make an aggregate of about 230 miles were to be constructed. However, the expected funds were not forthcoming, owing to the failure of Henry Marquand & Co. Meanwhile, on Aug. 1, 1900, the Shawmut Connecting R. R. Co. was chartered to build from SN Tower to Olean Jct. (later called Prosser) (2.2 mi.). SN Tower was in Portville at the N. Y.-Pa. state line. This portion had been built by 1904 according to the inspector's report to the N. Y. Railroad Commissioners. Trackage rights were then acquired over the Pennsylvania Railroad from SN Tower to Coryville, a distance of 11.5 miles. These trackage rights were cancelled on Jan. 1, 1910, upon completion of their own line between these points.

The first recorded new construction was in 1900, when another isolated segment of 7.47 mi., between Smethport and Coryville, was built under the charter of the Smethport and Olean R. R. Co. The Shawmut operated between Coryville and Larabee over 2.4 mi. of the P. R. R. tracks; the P. R. R. station was in Smethport, one mile away from the business section district, and considered inconvenient by the residents.

There was great activity, particularly in the vicinity of White House and in Smethport, which may conveniently be illustrated by excerpts from the local papers. The matter of rail crossings appeared to be "first come, first served," but I have failed to clear up the legal points resulting in the practice of laying rail crossings over the highways in advance of general construction.

Bolivar Breeze. July 29, 1901. "The Bolivar Extension of the Olean St. Ry. is now an assured thing, and within a few months the citizens of Bolivar, Ceres, and Little Genesee will be enjoying an electric service. . . . The new extension will be 12 mi. long. It runs through a prosperous section of Cattaraugus and Allegany Counties that has never had satisfactory transportation facilities. . . . There will be only two bridges (probably over the P. R. R. and P. S. & N. at White House.) . . . As stated this new electric railway service will prove to be of great benefit to Bolivar. At present but two narrow gauge trains each way a day are run and in the high water season these trains are often stalled for several days. In such cases Bolivar is shut off from the world. . . ."

Bolivar Breeze, Aug. 2, 1901. "There was considerable excitement in Ceres last Sunday. At 4 A. M. the Shawmut Line engineers corps headed by Capt. A. G. McComb and reinforced by 150 Italians and 30 teams invaded Ceres and began the work of laying out, grading and completing a Y 1,600 feet in length. The Y was built on the Carter lot just below Ceres on which the Olean Electric railroad had filed a

notice of location of their line two days previous. The 1,600 feet of track was surveyed, graded, ties and rail laid, and switch connections made before midnight Sunday. In addition a standard gauge engine was brought from Smethport to Ceres and placed on the Y along with a number of cars to prevent the track from being torn up. . . . The reason for building the Y on Sunday was that no injunction could be served on that day by the trolley people, thus interfering with and stopping the work. . . . The building of the Y shuts the proposed trolley out of Ceres, and the matter will likely be fought out in the courts."

The *Portville Autocrat* for Sept. 6, 1901 reported that the Olean Electric wanted "to cross land owned by the Shawmut and which they desired to use for a big "Y" to turn the big Shawmut engines on which are sometimes called "Battle ships" owing to the fact that they are so large that turntables cannot be used in turning them around." These must have been the Brooks 2-8-0s, Nos. 40-43.

Belmont Courier, Oct. 17, 1901. "The liveliest section of Southern Allegany County just now is probably in the towns of Bolivar and Genesee. The Pittsburg, Shawmut and Northern Railroad, and the Olean street car railroad are as busy as a boy killing snakes, trying to outwit each other. The Olean road when built will of course be a dangerous competing line for passenger traffic, but when the P. S. & N. gets a through line from the Pennsylvania coal fields to its northern terminus that will throw the trolley line in the shade."

Bolivar Breeze,, 1902. "A Shawmut Line train is stationed on the switch at White House constantly to prevent the trolley line from being thrown across the Shawmut tracks on a grade. Steam is kept up in the engine and a train crew is on duty day and night. The Pennsylvania is also watchful and has two night patrolmen and one day patrolman on guard constantly to see that the trolley line is not rushed across their roadbed on a grade."

Unidentified. "The Olean Electric Ry. which parallels the line of the Shawmut from Olean to White House (7 mi.) is fighting for three grade crossings for an extension to Bolivar (12 mi.). The grading is nearly all finished, the rails laid and poles set from White House to Bolivar, but the work is now held up by litigation. The trolley survey crosses the Shawmut line at White House and at Ceres and the main line a mile east of Ceres. In the event of being unable to secure a grade crossing the electric line will cross either over or under the Shawmut. A grade crossing over the P. R. R. at White House has also been asked for and denied. Pres. Byrne, of the Shawmut, does not intend to have a grade crossing on the entire line when it is completed."

The Olean Electric eventually won out in most respects and installed grade crossings at Ceres and across the Y. However, both the railway and the highway made use of an underpass, subsequently built at White House.

The Olean Street Railway also had its difficulties with the Pennsylvania R. R. as is noted in this unidentified clipping, dated Oct. 8, 1902. Efforts of the former to secure a grade crossing over the tracks of the latter at White House "are attended with no little excitement and a lot

of rigamarole. The Pennsylvania Railroad is willing to have an overpass or an underpass, but nothing at grade; it is a matter of their policy to have no grade crossings." Delays and postponements were numerous and frequent. "About 2 o'clock yesterday morning the street railway people, under the alleged direction and authority of the commissioner of highways of the town of Portville, went to the point where the crossing is desired and tore up the tracks of the Pennsylvania. They did not succeed in making the crossing as a little later a gang of seventy-five employees of the Pennsylvania road appeared and replaced the track. There was no clash between the forces of the two companies."

Angelica Advocate, June 5, 1902. "The residents between Coryville and White House have been having considerable fun at the new railroad construction in that vicinity. In order to cover some legal points it became necessary to construct such portions of the line as crossed any public highways and consequently last week short sections were constructed and the track laid at these points. They say that the number of missing links in the system has materially increased."

Bolivar Breeze,, 1902. "There was a small railroad war at Smethport on Tuesday morning last week between the employees of the Shawmut Line and a crew of Italians in the employ of E. K. Kane's Kushequa Route. About one o'clock Tuesday morning the Shawmut Line force went to work on a switch across land owned by Kane to connect their line with the glass works and put them in line to receive a share of the freight. At daylight the work was well underway and soon the Kane forces appeared and the air was full of rocks, pick handles, and Italian swear words. Several of the men were injured, but none too seriously. A truce was agreed on and the matter was referred to Judge Morrison for adjustment. The Shawmut Line is still uncompleted but what was built has not been disturbed."

At the time of the consolidation the rolling stock consisted of 23 locomotives, 22 passenger and 1699 freight cars. There were 472 employees who were paid \$217,065 for their services. Trains were operated over all lines, albeit the narrow gauge service was poor. The statistics at the end of the first year may be of interest. A total train mileage of 320,151 was made up of 149,983 passenger, 74,082 freight, and 95,986 mixed; this seems to be a rather high ratio of passenger trains. They carried 164,292 passengers, who paid \$49,574 for the transportation. They moved 900,512 tons of freight, for which service they received \$399,296. The freight consisted of products of (1) mines, 591,146 tons; (2) forest, 226,947 tons; (3) manufacturing, 23,472 tons; (4) farms, 28,673 tons; (5) miscellaneous, 30,274 tons. Their total earnings were \$508,251, while the expenses came to \$462,736, leaving a surplus of \$45,515 (their first and last!). The Pennsylvania component roads had always made money.

On March 13, 1900, the *Buffalo Express* "reported on reliable authority that before the close of the year the Shawmut will run trains through from Olean to New York via the Lackawanna." This rosy view was perhaps based on the terms of the contract of the Interior Construction and Improvement Company, by which agreement this company

was to widen the narrow gauge between Olean and Bolivar, and build the connecting link from Bolivar to Angelica over the old abandoned narrow gauge bed, so trains could be run from Olean to the Lackawanna connection at Wayland. As previously mentioned the construction company was left without funds as a result of the failure of Marquand & Co., and a new contract was drawn up on Dec. 31, 1902, having minor changes in proposed lines.

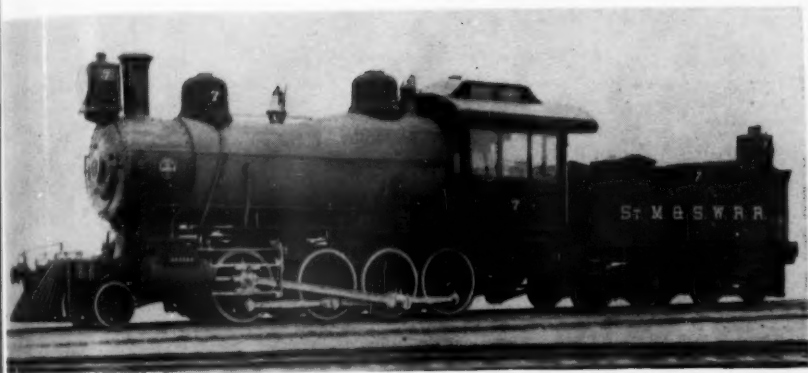
The New York Railroad Commission granted permission to widen the 3-foot section and construct the road from Olean to Bolivar on Aug. 15, 1900. The narrow gauge line followed the river very closely, and was unusable in times of high water, hence some relocation was advisable and realized; however, it was not until 1906 that a shorter (9.1 mi.), much less curved line was permanently built away from the river. The comments in the current newspapers give a good picture of the situation and adverse opinions caused by the delays in construction. The widening was completed in 1902, and mentioned in the inspectors' report to the state railroad commissioners in 1903.

Angelica Advocate, 1903, date unknown. "The Shawmut Line roadbed between Olean and White House in some places has been raised six feet and thousands of cars of gravel have been dumped along the line in the vicinity of Portville. The trestle at Gordons has been filled in and it is believed that hereafter floods will not interfere with the operation of the line between Olean and White House. Nearly all the curves of the line in that district have been eliminated and when the ballasting is completed it is likely that the present passenger schedule between Bolivar and Olean will not exceed 35 minutes."

Bolivar Breeze, Feb. 16, 1902. "The Shawmut Line steam shovel was shut down on Saturday and one work train was laid off. The second work train will finish up the work of gathering and shipping the narrow gauge iron (Olean to Bolivar) before it is laid up. There is still much grading to be done between Olean and Bolivar" . . . will resume work in the spring.

Among other things the Interior Construction and Improvement Co. agreed to do was to improve the line, one of the principal urgent needs being to fill in the horseshoe trestle at Swains. This filling was started under the Central New York and Western, but not finished until 1902; the inspectors reported in that year that it had been nearly filled. The *Bolivar Breeze* in Mar. 1902 stated: "The Shawmut Line steam shovel is now at work at Swains filling in the great horseshoe trestle work on which was partially completed two or three years ago. As soon as the work at Swains is completed the steam shovel will be moved to the Bolivar division. It will arrive next week."

The next piece of construction and the one that probably aroused the most interest among Allegany County residents was the 23.4-mile connection between Angelica and Bolivar, which traversed West Notch. The old narrow gauge had been laid here years before and had very severe grades. Although these were considerably reduced in the present construction they were still sufficiently steep to require the use of helper



St. M. & S. W. #7. Brooks 1896. 20x26" 51" Courtesy American Locomotive Co.



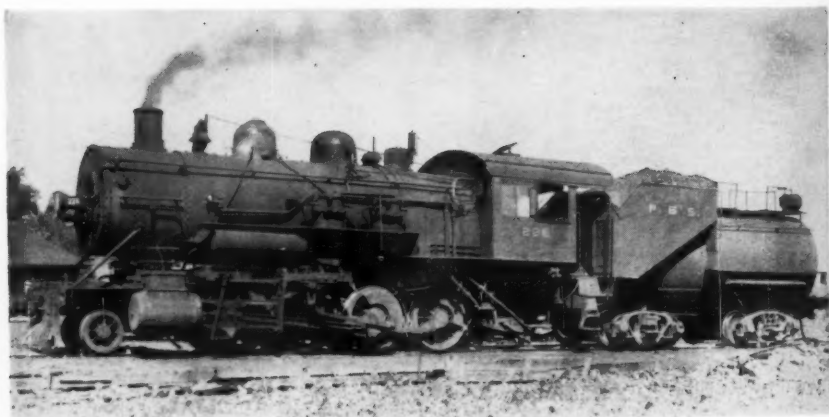
P. S. & N. #51. Baldwin 1904. 22x28" 51"

Courtesy C. O. Gay



P. S. & N. #58. Baldwin 1905. 22x28" 51"

Courtesy Stuart M. Barney



P. & S. #226; P. S. & N. #76. Baldwin 1911. 22x28" 51"

Courtesy R. G. Nugent

engines on practically all freight trains; the helpers were usually cut off at Friendship. From an Apr. 19, 1902 paper we learn: "The Pittsburg, Shawmut and Northern will build 40 miles of new line this season and connect the Pennsylvania and New York Divisions. Forty tons of new steel rails are now stacked up at White House and Angelica, and 150,000 ties are being loaded in Kentucky for the new line. The fish plates, bolts and other needed material are stored in Bolivar, Angelica and White House. The rails are 85-lb. and ties of best quality . . . The contract has been let to the Interior Construction and Improvement Co. of which Frank P. Byrne of Detroit is president. . . It is planned to have through trains running from Cool Spring in Armstrong County, Pa., the southern terminus in the Pennsylvania coal fields, to Wayland, N. Y., by next Christmas. Next season will see the northern terminus extended to a point on Lake Ontario and the southern to Pittsburg, where a connection will be sought with the Wabash. Genl. Thomas Hubbard of New York, a director of the Wabash, is now one of the strong financial men in the Shawmut syndicate, and this is significant. . . The completed line will be 250 miles long. The longest link to be built this season will be 25 miles between Angelica and Bolivar; it will also be the most expensive. The new line will follow the old survey (narrow gauge) up the valley to Richburg. The summit will be at West Notch, midway between Bolivar and Friendship; over this summit a pusher will be used on all heavy trains. The right of way between Bolivar and Angelica will follow for a long way the old narrow gauge line from which the rail was ripped up several years ago. During the past year the narrow gauge between Olean and Bolivar has been made standard gauge, so there is only a short distance between White House (where the Shawmut crossed the Pennsylvania R. R.) and Larabee, Pa., where connection is made with the Smethport division of the Shawmut, and a little five-mile gap between Clermont and Marvindale, to build and complete the entire system. (This "little five miles" is the location of the famous Palmerville or Kasson Loop, which bankrupted the builders.) Ten new locomotives of the latest type are to be placed in service this year. The mines are now producing 4,000 tons of coal a day. The Grand Trunk and Wabash railroads and the Buffalo water-works received their coal from the Shawmut. The rest of the coal is shipped to New England."

There is a huge dirt fill on a horseshoe curve, north of Richburg, where the railroad swings west around the mountain into West Notch. Much excavation was done here, and for a long time there were slides that tied up all traffic; eventually additional excavation remedied this trouble. The ruling grade at West Notch is 1.82% in both directions.

Wellsville Reporter, June 26, 1902. "It is announced that the contract for the construction of the Shawmut railroad between Angelica and Bolivar has been signed, with the successful bidders, Lathrop, Shea and Henwood, and if there are no serious holdups . . . it is expected that work will commence within a month. The building of the missing link will enable the Shawmut line to run through trains between their coal properties in Pennsylvania through Bolivar and Angelica to the

Erie at Hornellsville, or to the Lackawanna at Wayland. A great amount of Shawmut coal is now being transported over the Erie from Olean."

Angelica Advocate, July 3, 1902. "The glad news was received here on Monday that construction work on the new line between here and Bolivar had actually commenced at the latter place on Monday. The beginning was not very extensive but still it is a start, only a few men and teams being employed at present. The contractors are making arrangements as rapidly as possible to place a large force at that place and work from there northward. The portion of the line between Friendship and West North has been sublet and it was expected that a force of men would reach Friendship Wednesday night and begin work at that place in the direction of Bolivar. The portion between Friendship and Angelica has been sublet to Downs, Lunch and Lathrop. . . ."

In the *Railroad Gazette* for Nov. 2, 1900, it was stated that the Warren-Burnham Co. of 81 Fulton St., New York City, had taken a contract to build the 26 miles from Bolivar to Angelica. This must have been a subcontract from the Interior Construction & Improvement Co. However, it was never fulfilled, for a Buffalo concern did the construction.

Hornellsville Tribune, July 4, 1902. "There is much quiet rejoicing in town over the report that work on the Shawmut extension between Bolivar and Angelica has been started at both Friendship and Bolivar. The subcontractors are already distributing Italians, tools and materials along the line and actual construction work is to begin. . . . There is every prospect that another season will see a still further extension of that road from Wayland north through the Canadice Valley to a point connection with the West Shore railroad. . . ."

Angelica Advocate, Aug. 13, 1903. "Hooker & Son are pushing the work on Franklin trestle;* this firm subcontracted to build bridges and abutments." Two Lackawanna engines are used in the construction. Wire fence is used on chestnut posts. "The steam shovel is cutting its way through West Notch rapidly and is loading 300 cars of dirt per day." "The Shawmut goes under the Erie near Belvidere; the Erie has the work of putting in the crossing at Friendship. They have the eastern abutment all done and the western one-half done. This is also an underpass and there is much difficulty with quicksand."

Allegany County Advocate, Aug. 13, 1903. "One of the Lackawanna engines which has been in use on the Shawmut gravel trains for several weeks was crippled last Sunday by the breaking of a pin that holds the driving rod to the wheels. The engine was moving at the time and the heavy drive rods were bent out of shape. No serious damage was done." "Hooker & Son are pushing the work on the Franklin trestle . . . the piles are all driven for one concrete pier and partly driven for one of the abutments."

* This trestle, later replaced by bridge 35.1 (75 ft. in length), was the first one north of Angelica, towards Birdsall.

Friendship Correspondent, date unknown. "The rails for the Shawmut are laid through this village and the work is progressing rapidly. On the underground crossing of the Erie the contractors have at last found a solid bottom and the end of the work is in sight. The building of the line has added much to the prosperity of Friendship this summer. Everybody has been busy and plenty of money in circulation keeps the merchants good-natured."

Alleghany County Advocate, Oct. 8, 1903. "Work on the Shawmut Line is being rushed with all possible speed between Bullis' Mills where connection is made with the Pennsylvania and Angelica. Today there are 1,500 men at work. One hundred men are at work in the Bolivar yards. Two steamshovels are at work in Hoodoo cut near Angelica, one at West Notch cut and one on the Hood farm this side of West Notch cut where there is a deep gully to fill. By Saturday rails will be laid all the way from Friendship to the West Notch and from Bullis' Mills to this end of the West Notch cut. The rails will be laid from Angelica to the Genesee River in a few days and if the Erie crossing near Friendship which has caused so much trouble owing to the quicksand is completed it will be possible to take a pilot engine from Brockwayville to Angelica within fifteen days, and trains ought to be running over the line by Oct. 25th."

Bolivar Breeze, about Dec. 8, 1903. "There are three Standard Oil Co's. pipe lines, each 6 in. in diameter, that cross the Shawmut in West Notch; they went under the old narrow gauge line, but the new cut goes under them. They will be held up by a special bridge, and every precaution will be taken to avoid a break. Every day 34,000 gallons of oil from the Ohio field is forced through them at a pressure of about 500 pounds per sq. in."

Bolivar Breeze, Nov. 12, 1903. "Work is being rushed on the Shawmut Line. It is expected to have the road ready for an engine from Bolivar to Friendship this week, though regular trains cannot run for some time. Several of the big fills on the line have settled and given much trouble."

"The Shawmut crossing under the Erie at Friendship was completed Nov. 5, and an engine made the trip under the Erie tracks. It has been a long job to complete this work, owing to the bed of quicksand under the track. Work trains can now run from Angelica through to West Notch on the Shawmut ribbon of steel."

Portville Autograph, Nov. 20, 1903. "Today is the day set for the laying of the last rail and making the connection on the Shawmut between Bolivar and Angelica at the West Notch. Several hundred men, two steam shovels and four donkey engines make up the outfit centered in the Notch for the final effort to complete the road. When this work is done, the small amount of ballasting to be done will be completed in a few days and by Dec. 1st the new timetable is due to go in effect between Olean, Hornellsville and Wayland. Col. A. G. McComb as well as President Byrne are staying with the finishing up part of the work day and night, a telegraph office having been cut in at the top of the big cut to report the hourly movements of the work."

Bolivar Breeze, Nov. 26, 1903. "The first train over the Shawmut Line from Hornellsville to Olean was run last Thursday, Nov. 19. It was a special consisting of engine No. 2 and a passenger coach. The only passengers were Major John Byrne, President of the Shawmut Line, Col. Frank P. Byrne, President of the Interior Construction & Improvement Co. and Engineer McComb. The party was on a tour of inspection and pronounced themselves as well pleased with the progress of the work. The train passed through Bolivar about 6:00 P. M. passing the regular at White House and arrived in Olean at 7:00 P. M. On Friday the trip was continued to Mt. Jewett and the train returned to Bolivar Friday evening, leaving here for Hornellsville on Saturday morning. George Cooper was engineer, and Edward Pettibone, fireman."

Bradford Era, about Dec. 10, 1903. The body of a prehistoric animal was found on the Shawmut Line near Belvidere. The discovery of mastodon bones was made by Thos. Callahan of Bradford while working for the construction force on the Shawmut near Belvidere last spring. Prof. Alvan Stewart, of the Smithsonian Institution, came to dig, etc.

Hornellville Morning Times, Dec. 24, 1903. "At last the work of connecting up the different links of the Pittsburg, Shawmut and Northern Railroad has been completed and the new road will be opened for business today. This marks an important era in the history of Hornellsville as well as the Shawmut line, for it gives a continuous route from this city where the road has connections with the Erie and from Wayland where the road connects with the Lackawanna to the extensive coal fields of the company in Elk, Clearfield and Jefferson Counties of Pennsylvania.

"Through train service between this city and points on the line of the road into Pennsylvania will be established today. The road has been greatly improved in many particulars and the new track has been laid in a most substantial manner, which has won the commendation of railroad men everywhere.

"Every effort has been made to make easy grades and as straight a line as possible. New oak ties have been used throughout on which are laid the 85-lb. rails. All of the bridges are of the best steel, with concrete abutments. Immense quantities of ballasting materials have been used and the line is in first class shape."

Unidentified, March 31, 1904. "A landslide on the Shawmut at West Notch last week made it necessary to transfer at that point until Monday, when the track was again clear for traffic. Men worked night and day clearing the track." "The practice of smoking at the Shawmut shops has been forbidden. This applies to the workmen and not to the engines."

Allegany County Advocate, Apr. 7, 1904. Another slide in West Notch covering the rails was soon opened up by a large force of men. "This time a steam shovel was fired up and the cause of the trouble became a thing of the past."

The West Notch line was never entirely satisfactory. Among other things there was a quicksand hole that resulted in the track tilting; it

had to be worked over almost daily. One of the changes in John D. Dickson's proposed improvement program in 1932 involved building an entirely new line that would eliminate this troublesome section. The program did not go through as will be told later.

The Northern End: Angelica to Wayland and Hornellsville

Most of the construction here consisted of reballasting, widening, and filling in trestles. From Moraine to Hornellsville (Moraine was the new name of Hornellsville Jet.) the road was the leased Rochester, Hornellsville and Lackawanna. The first inspection of this entire section showed that it was not much changed from the last report on the Central New York and Western, though there was some improvement. Comments from local papers follow.

Allegany County Advocate, Dec. 24, 1903. "The good news has been received here (Angelica) that at last our long deferred hopes are about to be realized and we are to have a direct connection with the coal fields. Last Saturday, the contractors, the Lathrop, Shea and Henwood Company, surrendered possession of the road between here and Bolivar under their contract, and the railroad company was at once in possession to operate the same as soon as the details of train service, etc., could be arranged. We understand a schedule has been determined upon which will go into effect next Sunday, and regular trains will begin running Monday morning. We have not seen the new schedule, but understand this place is well-provided with convenient trains.

"Should no changes be made in the plan a train will leave here for the north in the morning about as at present making the connection at Swains for Buffalo and Rochester, running to Hornellsville Jet. where it will make connection with a train for Hornellsville. Returning it will take the business from Wayland and Hornellsville south, connecting with the Erie train No. 107 at Swains and pass through here at about 10 A. M. This train will run direct to Mt. Jewett, making a connection into Olean, and reach Mt. Jewett in time to connect with the north and south Buffalo, Rochester & Pittsburgh flyers. On its return trip it will connect with the Pennsylvania R. R. train from Buffalo at Olean and reach here about 8 P. M.

"Another train will leave here about 7:30 A. M. for Olean, returning in the middle of the afternoon so as to make the Buffalo and Rochester connection at Swain, make a connection at Hornellsville Jet. from and to Hornellsville and Wayland, and on its return connect with the train from Buffalo and Rochester at Swains, reaching here at about the time of our present train.

"The train from St. Marys will run about as on the present time card, that is from St. Marys to Olean, from there to Bolivar, back to Olean, and then to St. Marys. The Wayland division trains will be practically the same as now."

Allegany County Advocate, Apr. 7, 1904. "On Sunday, when a coal train with engine No. 34 was crossing the horseshoe trestle at Swains, one of twenty coal cars left the track near the Erie bridge,

tipped over, and took two cars with it—down thirty feet into the ditch. The track and bridge were repaired by Monday.”

The inspection (Aug. 12, 13, 1903) of the northern end of the rejuvenated Shawmut noted that it is very considerably improved over the last Central New York and Western inspection, but that the horse-shoe trestle at Swain's still needs more filling, and that the Stony Brook Viaduct needs replacement. (This was done in 1907.) The inspection of the Olean end is omitted, since that was all new construction.

The report notes that “a few cuts between Angelica and Swain's are somewhat narrow, and have steep slopes,” while others “are of proper width and well drained.” It points out that the iron bridges “although light, are apparently sufficient for the loads carried.”

Timber trestles were generally found to be in poor to bad condition, and in need of immediate repairs. Extensive blasting was in progress, and other features noted are in fair to good condition.

“The motive power and rolling stock are in good condition. All cars are equipped with automatic couplers, and all passenger equipment and 99 per cent of the freight equipment have air brakes.”

Recommendations are made for improvements, both as to repairs and painting. At this time, the P. S. & N. owned 21 locomotives, of which there were six 8-drivers, six 6-drivers, and 9 4-drivers.

Track sections are described as about 9 miles in length, “and a foreman and four laborers are employed upon each.”

“The Olean division . . . formerly narrow gauge, but has been widened and made standard since the last inspection . . . reducing the curvature, and the grades also reduced. Grading also being done on the formerly abandoned portion of the road between Bolivar and Angelica and standard gauge track laid; this work will be completed this year.”

The Shawmut properties in New York and Pennsylvania were isolated from each other, until the construction of the road from Clermont to Olean Jet. (Prosser). The building of the section between Smethport and Coryville has already been mentioned. Trackage rights from the Pennsylvania permitted the operation of through trains between Coryville and S. N. Tower.

One of the causes of this delay was due to the necessity for reaching a decision as how to best descend to the long deep valley which extends nearly to Clermont from the Big Level at Clermont. (The Big Level is a huge, roughly triangular plateau, and is described in Bulletin No. 76, p. 41) The three possibilities were (1) a trestle, (2) switchbacks, (3) a long embankment with grades and curves. The first was discarded because it would have involved a descent of 250 ft. during the crossing. The switchbacks were not feasible on account of the steep grades. Therefore, the third plan was adopted. The result was known as the Palmerville or Kasson Loop; it was constructed entirely of earth and rock, with a single bridge where it crossed the highway. It swung around in an enormous double curve, on the sides of several hills. The railroad started at grade near Kasson (where in later years there was

a Y for turning engines) and turned easterly; it was built on a shelf cut out of a side of the hill to the north. After about a half mile it looped across the valley on a large fill to a shelf on the hill on the opposite side; it was now headed west. After about 0.3 mile it crossed a small valley and turned south, east, and north, in order, all along the side of hills almost in a complete circle; it then turned east again, running on a shelf about fifty feet above its former line but within a stone's throw, and continued on to Clermont. With a sufficiently long train, the front and rear ends were together at this close point so that the train appeared to be passing itself! The controlling grade was 1.5% compensated. The elevation at Kasson was 1581, at curve No. 199 it was 1866, and at Clermont it was 2106, which is a rise of 525 ft. The distance between Kasson and Clermont is 7.6 miles.

An early 1903, *Angelica Advocate* notes: "The big fill at Palmerville is said to be the most expensive piece of railroad construction on the entire Shawmut line. There are 250 men employed which are apportioned onto day and night shifts, each shift working eleven hours out of the twenty-four, says the *Smethport Democrat*. There are two immense steam shovels at work on this fill, each shovel having a capacity of handling forty-four tons of rock and earth every ten minutes, giving one a slight inkling of what is being done in the way of railroad construction in that vicinity. In coming from Clermont the survey of the Shawmut gives a perfect loop across a deep ravine at Palmerville, the road crossing the ravine twice, the crossings being within a few rods of each other. The largest fill is 370 ft. across at its base and will be 100 ft. high and about 1,100 feet long when completed. This fill is pierced by a sluiceway of solid masonry 370 ft. long by 6 x 10 ft. inside measurement, containing 1,200 yards of masonry, to accomodate a small stream (Warner Brook) that flows through the ravine. About thirty feet of this fill has been completed.

Same, last week of October. "The Pittsburg, Shawmut and Northern Railroad Co. have completed the extension of their line from Clermont to Kasson, near Smethport, Pa. This is the line on which the great Loop-the-Loop has been constructed, which has attracted much attention throughout western New York and Pennsylvania for the past year. This connecting link of road now makes a direct short route from Olean, Bolivar, Eldred and Smethport to the Shawmut Co.'s Bituminous Coal Fields of Elk, Jefferson, Clearfield and Armstrong Counties. Through train service was established on Monday, Oct. 26th, which will make all through connections with the Pennsylvania Railroad at St. Marys, Pa., and Olean, N. Y., and with the Buffalo, Rochester & Pittsburg at Mt. Jewett."

The Shawmut ran excursion trains to the Loop, as shown by the flyer.

The Pittsburg, Shawmut and Northern was just one mass of curves and grades; only the most outstanding curves have been mentioned. The worst hill northbound was from St. Marys to North Fork, where there were 8.5 miles of 1.82% grade. Consequently this rule appeared

in the employees timetable: "Five-engine trains ascending hill from St. Marys Jet. to North Fork will place two engines on head and three engines in rear." A short hill (2.6 mi.) southbound, between St. Marys Jet. and Tracy's, was the most severe, having 2.30% grade. Other ruling grades northbound were Weedville to Paine, 2.17%, and Hyde to Shelvey, 1.96%.

The Shawmut Line bought two new combination cars, Nos. 132, 133, in 1905. At this time they had 32 locomotives (16 8-driver, 8 6-driver, 8 4-driver), 10 passenger cars, 8 combination cars, 3 baggage cars, 3,147 freight cars (820 box, 2135 coal, 66 flat, 111 service, 15 cabooses, 12 having four wheels and 3 having eight wheels).

In 1906, the construction company was released from its contract, and the railroad company finished the building then under way. A new coaling station was built at Angelica during the year.

The construction of the new Stony Brook Bridge, in 1907, was the next outstanding achievement. The old bridge had been given unfavorable reports by all the state inspectors for a decade.

The final link of 11.1 miles between Coryville and White House was not built until 1909. Until then the Shawmut operated by virtue of trackage rights over the Pennsylvania. (Miss Ferguson, librarian of the P. R. R., could not locate a copy of this agreement, dated June 18, 1900, between the W. N. Y. & P. (P. R. R.) and the Shawmut.) Construction of this important link with a grade of but 0.15 ft. per mile would enable the road to double the load per train, save the cost of trackage and delay of trains caused by the congested traffic of the P. R. R. and remove any fear of abrogation of trackage rights. The main item of construction was a long bridge over the Allegheny River and the P. R. R. A Shawmut official informed me that the Shawmut roadbed coincided with the old Bradford, Eldred and Cuba 3-ft. roadbed for a distance of about 2.6 miles, between Bolivar, N. Y., and near Bullis Mills, Pa., mostly in the vicinity of the N.Y.-Pa. state line. The balance of the distance the old line is parallel but isolated. From State Line to West Eldred the old line is entirely isolated from the present one.

States the *Eldred Eagle*, copied into the *Angelica Advocate* of May 20, 1909. "Any doubts as to the probability of the Pittsburgh, Shawmut and Northern Railroad building the link from Coryville to White House are removed by the activity they are displaying. This stretch of road is estimated as about 11 miles and it's believed it will cost over \$20,000 per mile to build, which, with other expenses will probably mean an expenditure of over \$500,000. . . . The representatives of the company seeking a right of way are said to be up against some rather high demands on the part of landowners along the route. The supervisors have arranged satisfactory terms for crossing the highways. At Benton's bridge a large section of the hill will be cut off and the highway put up higher at that place. A depot will be located near the Knapp's Creek bridge making it about 10 minutes' walk from town."

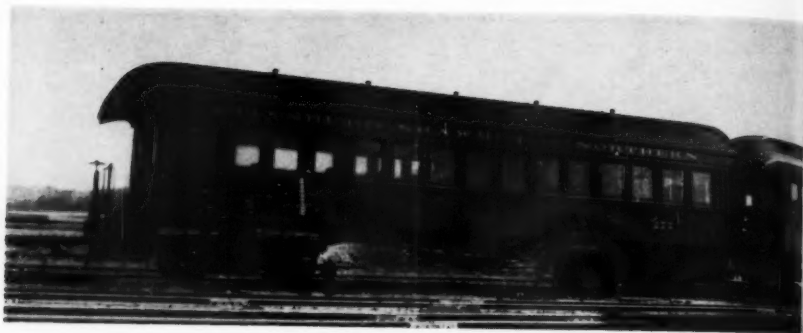
List of bridges on P. S. & N. R. R. Northern (New York) Division (Authy: Report No. 212). (Numbering as used since 1910).



P. S. & N. #96. Baldwin 1907. 28x32" 57"



P. S. & N. Caboose #188 at Olean, N. Y., 1940



P. S. & N. Coach #277



P. S. & N. St. Marys Jct., Pa.

Courtesy C. L. Lattin

Bridge No.	Name and Location	Type	Approx. Length
0.3	"Wye" Bridge, DL&W Jct. Wayland—"I" Beam		8 ft.
3.2	Gottschall Arch, Near Perkinsville—Stone Arch		22 ft.
6.0	Stone Brook Glen—Viaduct		421 ft.
13.9	Canaseraga Creek, at Canaseraga (NR)—Girder		44 ft.
15.0	Monkey Run, between NR and Garwoods—"I" Beam		18 ft.
15.7	Garwoods Run, at Garwoods—"I" Beam		12 ft.
16.8	Whitney Run, between G'woods & Swain—"I" Beam		10 ft.
17.4	Windsor Run, near Swains Curve—"I" Beam		18 ft.
17.6	Swains Arch, on Curve—Concrete Arch		30 ft.
17.7	Swains (Erie) Bridge, on curve—Plate		65 ft.
18.5	Big Fill, on Swains Hill—4 ft. Cast Iron Pipe		48 ft. cr.
19.6	Brick Arch, 1 M. North Grove—Brick Arch		18 ft.
21.8	Deeter Highway, Near Centre—Deck		22 ft.
29.2	Scholes—Girder		24 ft.
32.6	West Almond, just North Cty. Home—Girder		20 ft.
33.3	Cheese Factory, near Cty. Home—Through		65 ft.
33.6	Near Above—Girder		17 ft.
33.7	County Home—Through		85 ft.
34.2	Grist Mill, near Above—Through		100 ft.
35.1	Franklin Bridge (was "Trestle")—Through		75 ft.
36.9	Bell Hill, North of Bel-JH H'way—Deck		40 ft.
40.3	Genesee River—Girder		112 ft.
41.9	Belvidere to Belfast H'way—Girder		28 ft.
44.5	Erie Overpass—Girder Plate		45 ft.
44.9	Near Bel-F'ship Highway—"I" Beam		14 ft.
46.4	Water Tank Bridge F'ship—Girder		20 ft.
47.0	VanCampen Creek, North FP—Concrete Arch Girder		80 ft.
48.9	Nile-W. Clarksville H'way—Girder		28 ft.
49.0	Nile Arch, over Creek—Arch		16 ft.
50.0	W. Notch-Nile H'way Underpass—Girder		34 ft.
50.5	Stillman Arch—Arch		14 ft.
50.6	Stillman Highway—Girder		22 ft.
53.3	West Notch Pipe Line Viaduct—Overhead		65 ft.
56.2	East North Arch over H'way and Creek—Arch		28 ft.
56.4	Hell Hollow Arch (Pleasant Valley)—Girder		36 ft.
57.2	Bridge at Richburg Station—Girder		19 ft.
59.4	Kassouth Run, just South Bolivar—Girder		28 ft.
60.5	Horse Run, at Foreman Hollow—Girder		21 ft.
61.7	Little Genesee Floodway—Girder		20 ft.
62.0	Little Genesee—Girder Plate		20 ft.
63.0	Camp McComb, North Sanfords—Girder		14 ft.
64.0	Sanford Siding Trestle—Wooden Trestle		90 ft.
65.2	Case's Crossing, Rte. 17 Underpass—Girder		34 ft.
67.1	Bells Brook, near Prosser—Girder		29 ft.
68.7	Hornblower Bridge, near Prosser—Girder		30 ft.
69.1	Mill Race in Swamp—Girder		10 ft.
69.3	Oswayo Creek, near State Line—Girder		44 ft.
70.6	State Line Overhead Highway Xing—Girder		40 ft.
71.0	State Line Viaduct—Viaduct		340 ft.

END OF NORTHERN DIVISION

NOTE: Girder Bridges are through, Deck Plate, Girder Bridges.

List of Bridges of PS&N RR Southern (Pennsylvania) Division

(Authy: U. S. Geological Survey maps, PS&N RR maps, time-tables). (In this list, the miles are correct, the tenths may be off one or two points, after bridge number 84.2).

Bridge No.	Location and Name	Type	Approx. Length
75.2	Knapps Creek Bridge, West Eldred—	Girder	55 ft.
75.3	Knapps Creek Overhead Highway—	Girder	35 ft.
81.4	Moody Brook, near Coryville—	Girder	40 ft.
83.9	F. Valley Floodway—	Girder	60 ft.
84.2	Farmers Valley—	Girder	40 ft.
88.9	Smethport—	Girder	30 ft.
94.9	Highway U. S. 6 near Kasson Overpass—	Girder	37 ft.
95.9	North of Kasson—	Girder	24 ft.
98.3	On Kasson Loop, Clermont-M'dale H'way—	Girder	40 ft.
98.8	On Kasson Loop, North Curve—	Arch	14 ft.
99.0	On Kasson Loop, South Curve—	Arch	20 ft.
103.1	At Clermont—"I" Beam		20 ft.
109.1	Wellendorf—	Arch	22 ft.
125.7	At St. Marys Jct.—	Girder	30 ft.
134.7	Beaver Run, North of Dagus—	Pile Deck	40 ft.
136.2	Dagus, on Horse-shoe Curve—	Girder	38 ft.
146.6	Junction Bridge, Connection with Erie—	Girder	19 ft.

END OF PS&N RR MAINTAINED BRIDGES ON SOUTHERN DIVISION

Bridges on Branch Lines—Northern Division—Hornell Branch

H-13.0	State Ditch, two miles North Arkport—	Girder	20 ft.
H-17.2	Canisteo River, near Webbs—	Girder	44 ft.
H-18.1	North Hornell Spur—	Trestle	80 ft.
H-19.6	Hartshorn Farm, Hornell—	Trestle	65 ft.
H-21.1	Hornell Floodway, past Station—	Girder	30 ft.

Olean Branch

O-69.1	Butternut Run, near Rte 17 Crossing—	Girder	24 ft.
O-70.4	Triangle Bridge, Highway Xing P'tville—	Girder	18 ft.
O-71.1	Dodge Creek, near Portville—"I" Beam		10 ft.
O-74.3	Haskell Creek, 17-480 H'way Jct.—	Girder	60 ft.
O-76.3	Olean Creek Floodway, Olean—	Trestle	100 ft.
O-76.4	Olean Creek Trestle—	Trestle	140 ft.

Bridges on Branch Lines—Southern Division—Weedville Branch

W-146.0	Tyler—	Girder	40 ft.
W-144.2	Force, at Jct. of Browns Run Branch—	Girder	20 ft.
W-140.7	Byrnedale Horse-shoe Curve—	Girder	60 ft.
W-138.5	Bennet Creek, near Brick Works—"I" Beam		14 ft.

Drummond Branch

D-150.5	Brockport "Wye" to Branch—	Girder	20 ft.
---------	----------------------------	--------	--------

Mt. Jewett Branch

M-96.4	Marvindale—	Trestle	60 ft.
M-99.8	Hazlehurst—	Trestle	64 ft.
M-103.9	Mt. Jewett, over Creek near BR&P—	Pile	30 ft.

Types of Bridges are shown only as a guess, they *used* to be these types.

Early Shawmut Rolling Stock

Previous accounts of locomotives of the Pittsburg, Shawmut, and Northern (R. & L. H. S. Bulletins) were, of necessity, incomplete, because fires had destroyed the old records. Since these publications, considerable information, which has been collected from different sources, extends our knowledge of some of the older engines. A part of this has been related under the Central New York and Western; the remainder will be described here. Perhaps this account will arouse further recollections by our members—we shall be delighted to learn of them.

Acknowledgment: I take considerable pleasure in expressing my appreciation of the cooperation of our members Fred C. Hill of Troy, New York; the late Allan O. Geertz, fuel engineer of the Pennsylvania R. R., who made a hobby of tracing old P. R. R. engines; Nathan Wells, and Mr. Lyons, former Shawmut employees; and R. G. Nugent, of Dansville, N. Y., who has been able to locate and interview several of the older Shawmut employees, and whose father worked for the Shawmut at the turn of the century.

As we noted under the Central New York and Western, this road had two narrow gauge engines (Nos. 4, 5), inherited from the four of the L. & S. W. (Nos. 4, 5, 6, 7); the succeeding Shawmut had but two, one each with four and six drivers. The records are clear on the latter, which was No. 5. Since only No. 4 of the three other had four drivers, this must have been the second one. Hence it might be concluded that Nos. 6 and 7 were disposed of by the C. N. Y. & W. Mr. Lyons stated that the front end of No. 6 was converted into a stove for one of the Angelica shops, indicating that this engine was scrapped. Nothing is known about the end of No. 7.

There has been some uncertainty over the early standard gauge locomotives on the Shawmut. The roster (Bulletin No. 61, p. 86) is obviously incomplete since, among other things, it shows Nos. 1-7 vacant. Now it would be very strange to start numbering a series of engines with 8, especially since arrangement of locomotives by classes was just appearing on American railroads in general, and was not started on the P. S. & N. until the advent of the new six-wheel switcher No. 22, in 1903. In fact, standard gauge engines Nos. 1, 2, and 3 have already been traced. Member Fred C. Hill (Bull. 62, p. 83) distinctly recalls No. 2, a Rogers engine, and Nos. 1-3, and photographs of No. 1 (Bull. 82, p. 59) and 3 are available. The dates on which they disappeared from the roster are unknown. It is surmised that Nos. 4-7 were occupied by the four narrow gauge engines of the Central New York and Western; it has just been shown that Nos. 4 and 5 were on the Shawmut roster. It appears probable that the other two were either retained in storage until the decision had been reached to widen the narrow gauge, at which time, being unsaleable, they were scrapped; or, perhaps, they may have even been partially dismantled, since they were not counted in the reports to the state commissioners. From the available old records and data from the annual reports of the inspectors

for the Railroad Commissioners of New York, I have been able to piece together the disconnected items and obtain a very plausible result.

The Central New York and Western leased *nine* standard gauge engines (Nos. 1, 2, 5, 6, 21, 23, 32, 34, 43) from Frank S. Smith and John W. Byrne, later from the Byrne Estate. This ownership is largely proved by the 1911 boiler inspection records. The solvent Pennsylvania roads owned all their engines, which were *twelve* in number; there were Nos. 1, 2, 3, 20, 21, 40-45, and Clarion River No. 2. Since the Shawmut, in its first report, had but *twenty-two*, one must have disappeared.

Upon checking the number of engines having four drivers, which the state inspectors gave as ten, it is evident that it is one of this group that has disappeared. These engines were narrow gauge No. 4 (1); standard gauge Nos. 1, 2, C. R. No. 2 of the Penna. group (3); and Nos. 1, 2, 5, 6, 32, 34 of the New York group (6). All these are accounted for because they appear in subsequent years; therefore, by exclusion, it is No. 43 that has disappeared. The numbers remained constant until 1902 when the two narrow gauge engines were removed—since the road from Olean to Bolivar was widened to standard gauge at that time there was no longer a need for the 3-footers.

In 1902, the inspectors stated that there were twenty locomotives, six having 8 drivers, five with 6 drivers, and nine with 4 drivers. The first group includes Nos. 40-43, which were purchased new in 1899 from the Pittsburgh Locomotive Works, and Nos. 44 and 45 (ex-B. St. M. & S. W. Nos. 7 and 9). The second group is made up of two moguls, Nos. 20 and 21 (ex-B. St. M. & S. W. 5 and 11), and three ten-wheelers, Nos. 14 (ex-R. H. & L. No. 23), No. 15 (ex-L. & P. No. 21), and No. 3 (an ex-P. R. R.). The last group comprises No. 8 (ex-L. & P. No. 32), No. 9 (ex-R. H. & L. No. 34), Nos. 10-13 (ex-C. N. Y. & W. Nos. 1, 2, 5, 6), No. 1 (ex-P. R. R.) No. 2 (ex-Mt. J. C. & N.) and Clarion River No. 2. This arrangement accounts most conclusively for Mr. Hill's Nos. 1-3. Of these twenty engines, the New York and Pennsylvania roads each contributed eight, while the four consolidations were new.

A six-wheel switcher, No. 22, was added in 1903, as were two consolidations, Nos. 53 and 55. In 1904, the Shawmut bought the two second-hand Lackawanna moguls, Nos. 18 and 19, and four new consolidations, Nos. 50, 51, 52 and 54. The state inspectors now report that the road had a total of 28 engines, giving the usual breakdown as to driving wheels. This implied that one of the 4-4-0s was scrapped. It must have been either No. 1 or 2, because all of the others (Nos. 8-13, C. R. No. 2) were on the roster in 1911 and later. One might assume it was No. 2, because, according to the *Olean Times*, this engine was frozen up at Hornellsville in the winter of 1903-4, and was too old to be worth repairing. However, in the records for 1906, an itemized account of the salvage of No. 2 was given; hence the engine that was scrapped in 1904 must have been No. 1.

It is unnecessary to note the successive additions of consolidations in drawing further conclusions, but a second six-wheel switcher No. 23, was added in 1905, when out of a total of thirty-two engines, there were

still eight having six drivers. This implies that one of the earlier six-drivered engines had disappeared. It can only be No. 3, because all the remainder (14, 15, 18, 19, 20, 21, 22, 23) were on the Shawmut roster until 1912 or later, and their disposal is known. Finally, in 1906, one four-drivered engine disappeared. This was No. 2 as has been already stated.

Old boiler inspection records show that the boilers from engines Nos. 11, 14, and 18 were used in the Angelica shops after the engines were scrapped.

I sent photographs of Nos. 1 and 3 to Mr. Geertz; his comments follow:

"P. S. & N. No. 1 looks from the photo like a class D-5 (old G) P. R. R. locomotive. Boiler appears straight (not wagon top) and drivers only very slightly higher than top of valve chest. Only 18 Class G locomotives were built, and of these, 10 were cut up on P. R. R.

"The remaining 8 were disposed of as follows:—

29 Sold E. H. Wilson and Co. (2nd-hand dealer)	4/90
153 Sold E. H. Wilson and Co.	4/91
163 Sold E. H. Wilson and Co.	12/94
247 Sold E. H. Wilson and Co.	4/91
930 Sold W. W. Caldwell	10/99
934 Sold E. H. Wilson	3/92
935 Sold Strasburg R. R.	10/92
937 Ren. 44, 5/91—Gen. Manager's Special Eng.	
Sold E. H. W.	2/94

This engine had domes change and is not one in photo.

"In my opinion, P. S. & N. No. 1 is one of these, but, except for No. 937, I cannot rule out any one.

"P. S. & N. No. 3 is clearly a class G-2 (old class E) P. R. R. locomotive. There were hundreds of these on the P. R. R., and, of those built at Altoona, 41 were disposed of without cutting up. Of these 41, 8 went to Phila. & Erie, as Nos. 1008, 1010, 1030, 1031, 1048, 1054, 1070, 1071. Of these, records show 1008, 1030, 1054 cut up at Renovo. It is my guess that the P. S. & N. No. 3 was acquired from the P. & E. and was one of Nos. 1010, 1031, 1048, 1070 or 1071."

Notes on Individual Engines

No. 2—This was an old Rogers engine, No. 1 of the Mt. Jewett, Clermont and Northern, and acquired in the 1899 consolidation. It had previously been on the Mt. Jewett and Smethport, which had obtained it from the Pennsylvania R. R. It had 54-in. drivers, and had a straight stack, extension front, and fluted domes. The steam dome, sand box, and cylinder casings were of brass, although not kept polished. It must have been used in special service at one time, perhaps by Mr. Smith.

No. 14—This old ten-wheeler, which came down from the Rochester, Hornellsville and Lackawanna, had rounded domes, like No. 9. It figured frequently in derailments, being too stiff to take the sharp curves. The blind drivers would drop inside the rail, thus derailing the engine. It was off the track five times in one 19-day stretch. It was used as the yard engine at Angelica for many years.

1st No. 15—This old ten-wheeler, formerly Lackawanna & Pittsburgh No. 21, resembled No. 8 (ex-L. & P. No. 32) in having fancy domes. During the construction of the southern part of the line in Pennsylvania, the engineers overlooked or were unaware of a coal mine shaft that crossed under the right of way, near the surface. At one time when this engine was dragging some cars over this spot, a cave-in occurred, the tender partially dropped into the hole (see photo).

The Baldwin Consolidations were all Class H, being subdivided into H-3 (50-55) and H-4 (56-75), differing in distribution of the weight on the drivers. Nos. 50-67 had Stephenson link motion, while the others had Walschaert valve gear.

Mr. Hill writes that No. 53 was similar to the others except lighter, and "No. 55 had double counterweights on the drivers, and was said to have been fitted with a heavy casting to provide additional weight on the drivers. They were all equipped with square tenders." No. 50 had a new boiler in 1928. Since Nos. 53, 55, (and 57) were rebuilt by Baldwin in 1920, they were apparently not as satisfactory as the rest of the group. Nos. 56-59 were similar except that they had Vanderbilt tenders. The shipment of five Baldwins, Nos. 62-66, is shown in a photograph; these, and subsequent engines had chime whistles and Vanderbilt tenders. These cylindrical tenders were a definite hazzard; I was, unfortunately, present in the St. Marys shop, when a workman slipped off one and was killed.

No. 76 was a similar engine of the same period. It was numbered 226 on the Pittsburg & Shawmut. When the latter road was controlled by the P. S. & N., this and the P. & S. Mikados were used all over the system. The "Mikes" were frequently derailed, being unable to take sharp curves, and spreading the rails; the distance between the rear drivers and trailer was said to be too great. No. 226 often used in work trains, featured in the County House wreck, when engineer George Cooper was killed.

No. 81, 2-10-0, Class J-2, was one of the many decapods that had been built by Baldwin for the Russian Government in 1918; its tires were 7 in. wide. It was purchased from the Erie in 1942.

No. 98—This 2-10-2 type was a monster "Jonah," purchased for use on the Byrnedale branch in the coal district, but for some time used as a helper in West Notch, N. Y. However, it was too heavy for the light rail and the long wheel base was too much for the sharp curves; derailments were common as it spread the rails. As an added complication, when used as a pusher, the front end projected so far over the curves it tended to push the cars off the track; consequently it had to

be used tender first. Even so, it often pushed the tender off. The engine was stored for many years before being scrapped in 1930.

During the first decade of the twentieth century the Shawmut had so much freight business its own engines could not handle it all, and it was necessary to rent or lease engines from neighboring roads. Mr. Nathan Wells stated that they rented engines from the Erie on a day-to-day basis, but that there was no transfer of ownership or renumbering. Some must have been used for a long period of time, for the Shawmut made boiler inspection reports on them, which implies more than rental. Roads and engine numbers found as follows.

Erie, No. 121, 4-4-0, engineer Will Smith; 1902-3.

No. 377, 391, 4-4-0. Mr. Hill recalls these as having fluted domes and straight stacks, and being in service in 1903-4.

No. 1666 (10-29-13).

P. R. R. Nos. 6244, 6277, 2-8-0. Locally known as "fantails."

Buffalo & Susquehanna. Nos. 117, 118, 119, 2-8-0. In coal service.

D. L. & W. No. 34, 2-6-0. Used in local freight service.

In the scrap paper obtained from the Angelica junkman there were many boiler inspection reports. Some were in very poor condition, having been soaked by rain, molded, and disintegrated. By careful search considerable data on ownership and leases of the newer engines were found; the earliest year was 1907. At this time the P. S. & N. evidently owned outright Nos. 20, 21, and 40-45. The remainder of the pertinent facts are given in the table; this shows the earliest and latest dates found of lease and earliest date of Shawmut paid-up ownership. It appears that as soon as the engine was completed, it was inspected, and the form filled out as though the railroad actually owned the engine; on the back of eight such forms, however, it is written that the engine carries plates of the Baldwin Locomotive Works, Lessors and Owners. The engine was then stored until time of acceptance by the railroad (as written on back of blanks of Nos. 62 and 63). The report blanks have a space for "owned by" and "operated by," the latter always being the Pittsburgh, Shawmut and Northern R. R.; at first the lessor is named under "owned by," but when the railroad company finally paid for the engine, the "PS&N RR." is found in this space—the transfer came some time between the dates given in the two columns. It is also known from the photograph that Nos. 62-67 were shipped in one lot to Angelica, which supplies dates on 65 and 67, inspection reports of which were not found.

No significant early reports were found about engines Nos. 50, 51, 52, 55 and 67, while those on 98 are not the earliest. Very interestingly, it appears that No. 98 was tried out on the Hocking Valley, for its boiler was inspected on that road on Oct. 21, 1918; there was no sale, however, for on Nov. 20, 1918, it is recorded that the engine was stored at Angelica.

Leasing and Ownership Dates of P. S. & N. Locomotives 51 to 75, 98

Eng. No.	Lessor	Lease Dates	PS&N, Owner, dates
51			8-13-11
52			11-17-16
53	C. E. Barrett, Trustee & Owner	12-16-07	10-10-12
54	C. E. Barrett, Trustee & Owner	11-27-07	1-17-11
55			4-9-11
56	Colonial Trust Co.	9-30-08	12-16-12
57	Colonial Trust Co.	2-27-11	
58	Colonial Trust Co.	2- 3-10	5- 2-12
59	Colonial Trust Co.	2-19-12	9- 6-12
60	Guardian Trust Co.	9-10-08	
		4-29-14	
61	Guardian Trust Co.	2- 7-10	
		9-20-15	12-27-15
62	Burnham, Williams & Co.	11-18-08	5-29-08
			3-19-12
63	Burnham, Williams & Co.	11-17-08	5-29-08
			7-21-13
64	Burnham, Williams & Co.	11-17-08	5-29-08
			9-28-11
65	Burnham, Williams & Co.	3-22-10	5-29-08
			3-30-12
66	Burnham, Williams & Co.	11-17-08	5-29-08
			7-22-14
67			5-29-08
			7-18-13
68	Burnham, Williams & Co.	12-17-12	1-12-11 plate
			5- 2-14
69	Burnham, Williams & Co.	1-19-11	1-13-11 plate
		1-22-14	4-18-14
70	Burnham, Williams & Co.	1-26-14	1-17-11 plate
			5- 3-14
71	Burnham, Williams & Co.	2-16-11	1-13-11 plate
		11-15-13	6-11-14
72	Burnham, Williams & Co.	3- 6-12	1-13-11 plate
		2-28-14	9- 4-14
73	Burnham, Williams & Co.	9-25-13	1-13-11 plate
		12-20-13	3-20-14
74	Burnham, Williams & Co.	12-20-13	1-31-11 plate
			3-19-14
75	Burnham, Williams & Co.	2-15-11	1-31-11 plate
		11- 2-13	
98	Guardian Trust Co.	11- 7-13	7- 7-14
		5- 2-14	

Locomotives of the Pittsburg, Shawmut & Northern R. R.

No.	Builder	C/N	Date	Type	Cyls.	DD	Cl.	Notes	Scrapped
1	?			4-4-0				ex-PRR, D-5	A 1904
2	Rogers			4-4-0		54		ex-MJC&N #1	1906
3	Altoona			4-6-0	18x22	50		ex-PRR, G-2	A 1905
4	?			4-4-0				ex-AC #4, 3 ft.	B ?
5	Baldwin	5975	1881	2-6-0	14x20	45		ex-AC #5, 3 ft.	B Sold
6	Baldwin	5979	1881	2-6-0	14x20	37		ex-AC #6, 3 ft.	B ?
7	?			2-6-0				ex-AC #7, 3 ft.	B ?
8	Cooke	1721	1886	4-4-0	16x24	63	D-1	ex-CNY&W #32	C 12-31-24

9	Cooke	1726	1886	4-4-0	16x24	63	D-1	ex-CNY&W #34	C	3-1928
10	Brooks	1564	1889	4-4-0	17x24	62	D-2	ex-CNY&W #2	C	3-1928
11	Brooks	1655	1890	4-4-0	17x24	62	D-2	ex-CNY&W #5	C-D	11-25-12
12	Brooks	1656	1890	4-4-0	17x24	62	D-2	ex-CNY&W #6	C	12-31-32
13	Brooks	1563	1889	4-4-0	17x24	62	D-2	ex-CNY&W #1	C	3-1928
14	Cooke	1727	1886	4-6-0	18x24	55½	G-1	ex-CNY&W #23	C-D	4-1916
15(1)	Cooke	1715	1886	4-6-0	18x24	52½	G-1	ex-CNY&W #21	C	5-27-12
15(2)	Baldwin	41015	1913	2-6-0	20x26	63				12-31-36
16	Baldwin	39662	1913	2-6-0	20x26	63				12-31-36
17	Baldwin	39663	1913	2-6-0	20x26	63				12-31-36
18	Dickson	111	1872	2-6-0	18x24	56½	F-1	ex-DL&W #237	D	12-31-16
19	Dickson	108	1872	2-6-0	18x24	57	F-1	ex-DL&W #251		9-22-09
20	Brooks	2739	1897	2-6-0	18x26	57	F-2	ex-BStM&SW #5		1-1929
21	Brooks	2736	1897	2-6-0	18x26	57	F-3	ex-BStM&SW #11		12-31-24
22	Baldwin	21663	1903	0-6-0	20x26	51	B-1			3-1947
23	Baldwin	25712	1905	0-6-0	20x26	51	B-1			3-1947
24-39	Vacant, never used									
40	P'burgh	1974	1899	2-8-0	22x28	50	H-1			12-31-24
41	P'burgh	1975	1899	2-8-0	22x28	50	H-1			12-31-24
42	P'burgh	2006	1899	2-8-0	22x28	50	H-1			12-31-24
43	P'burgh	2007	1899	2-8-0	22x28	50	H-1			12-31-24
44	Brooks	2663	1896	2-8-0	20x26	51	H-2	ex-BStM&SW #7		12-31-24
45	Brooks	2664	1896	2-8-0	20x26	51	H-2	ex-BStM&SW #9	E	2-1926
46-49	Vacant, never used									
50	Baldwin	23939	1904	2-8-0	22x28	51	H-3	Reb. B'win '28	F	3-1947
51	Baldwin	23979	1904	2-8-0	22x28	51	H-3		F	3-1947
52	Baldwin	23980	1904	2-8-0	22x28	51	H-3		F-G	12-31-36
53	Baldwin	22359	1903	2-8-0	22x28	51	H-3	Reb. B'win '20	F	6-15-41
54	Baldwin	24043	1904	2-8-0	22x28	51	H-3		F-G	12-31-36
55	Baldwin	22415	1903	2-8-0	22x28	51	H-3	Reb. B'win '20	F	2-1940
56	Baldwin	25486	1905	2-8-0	22x28	51	H-4		G	12-31-36
57	Baldwin	25556	1905	2-8-0	22x28	51	H-4	Reb. B'win '20	G-H	3-1943
58	Baldwin	25598	1905	2-8-0	22x28	51	H-4		G	3-1947
59	Baldwin	25672	1905	2-8-0	22x28	51	H-4		G	3-1947
60	Baldwin	30227	1907	2-8-0	22x28	51	H-4		G	3-29-40
61	Baldwin	30298	1907	2-8-0	22x28	51	H-4		G	3-12-40
62	Baldwin	32769	1908	2-8-0	22x28	51	H-4		G	3-1947
63	Baldwin	32770	1908	2-8-0	22x28	51	H-4		G	3-22-40
64	Baldwin	32771	1908	2-8-0	22x28	51	H-4		G	3-2-40
65	Baldwin	32782	1908	2-8-0	22x28	51	H-4		G	12-1936
66	Baldwin	32783	1908	2-8-0	22x28	51	H-4		G	3-17-40
67	Baldwin	32807	1908	2-8-0	22x28	51	H-4		G	3-9-40
68	Baldwin	35810	1910	2-8-0	22x28	51	H-4		G	1948
69	Baldwin	35811	1910	2-8-0	22x28	51	H-4		G	1948
70	Baldwin	35822	1911	2-8-0	22x28	51	H-4		G	1948
71	Baldwin	35823	1911	2-8-0	22x28	51	H-4		G	1948
72	Baldwin	35824	1911	2-8-0	22x28	51	H-4		G	3-1947
73	Baldwin	35825	1911	2-8-0	22x28	51	H-4		G	3-1947
74	Baldwin	35992	1911	2-8-0	22x28	51	H-4		G	3-1947
75	Baldwin	36035	1911	2-8-0	22x28	51	H-4		G	1948
76	Baldwin	36817	1911	2-8-0	22x28	51	H-4	ex-P&S #226 Bought 1944	J	3-1947
77-79	Vacant, never used									
80	P'burgh	26325	1903	2-8-0	21x30	51		ex-P&LE #174	K	7-1931
81	Baldwin	48132	1918	2-10-0	25x28	52	J-2	ex-Erie #2499 Bo't 1-1942		5-1944
82-89	Vacant, never used									
90	Brill Motor Car, Model 75. Bought 1925. Sold to Consolidated R. R. of Cuba, Jan. 1939.									
91	Brill Motor Car, Model 75. Bought 1926. Sold to Thos. F. Carey Co., 1936.									
92-97	Vacant, never used									
98	Baldwin	30000	1907	2-10-2	28x32	57			G	4-30-30

Nos. 1-67 had Stephenson link motion; all others had Walschaerts Gear.
Nos. 18-19. Bought Sept. 25th, 1903.

NOTES

- | | |
|-------------------------------------|---|
| A. See text, P. S. & N. Equipment. | F. See text, P. S. & N. Equipment. |
| B. See A. C. R. R. roster. | G. See table for dates of lease. |
| C. See C. N. Y. & W. roster. | H. Out of service from 1939. |
| D. Boiler used in Angelica Shops. | J. See P. & S. roster. |
| E. Boiler used in St. Mary's Shops. | K. Bought from Gen. Equipt. Co.,
Dec. 7th, 1926. |

Class A-1 was assigned to Clarion River #2.

The Hartford Steam Boiler Inspection & Insurance Co. assigned numbers to the old locomotive boilers used in the Angelica Shops, as follows: 14661, ex-#18; 14662, ex-#11; these went through the fire without damage. The boiler from #14 was assigned number 5, and used in the coal hoist. A #2/5889, used in the blacksmith shop, was an old narrow gauge boiler.

At the time of the consolidation in 1899, the newly-formed road owned 13 passenger, 9 baggage and express, and 1708 freight cars (322 box, 1271 coal, 10 flat). In 1901, the New York State inspectors reported 14 passenger, 12 baggage and express, and 2300 freight cars, of which 1745 were for coal. In addition to rebuilding and repairing old cars the P. S. & N. bought 550 new coal cars in 1901 and 200 new box cars in 1902. A record book for 1911-12 gives passenger service cars as Nos. 99-104, 106-109, 112, 126-129, inclusive.

In lettering the box cars the word SHAWMUT was painted in very large letters, about twice the ordinary height, as may be seen in the picture in which they appear.* About this time several other roads painted their names in big letters; I recall the DEEPWATER, now the VIRGINIAN, and the UNION.

The Shawmut also had some white refrigerator cars which can be seen in two of the pictures. A great deal of celery was grown in the muck lands around Arkport, and shipped to Philadelphia. The filled cars were taken over the Shawmut to Olean on the evening passenger train, No. 9, and attached to a P. R. R. fast freight arriving in Philadelphia the next day.

Two "passenger" cars are of more than ordinary interest. The first was No. 99, the private car of Frank Sullivan Smith. The picture reveals that it is a wooden, luxury observation car, having six-wheeled trucks. It had two sleeping compartments, a kitchen and sort of living room. It was customarily hauled by his private engine, No. 43, by Clarion River No. 2, or old No. 2 of the P. S. & N. It was eventually discarded, being given to the Y. M. C. A., by Mrs. Smith; it was removed from the trucks and set up in Eggleston Park (near Belvidere)

*It was this feature that aroused my original interest in this railroad. The Lexington Branch of the Southern Division of the Boston & Maine Railroad passed about a mile away from our house in Arlington, Mass., and in a valley. It was the custom of the crew of the afternoon, inbound way freight to leave the train standing near the chemical works (later, Arlington Gas Light Co.) while doing the necessary switching in the yard. While using a telescope my grandfather had given me I, one day, found a box car with the big SHAWMUT in the name; curiosity did the rest—first to find the complete name of the road, and then its location. It was only natural that I should look it up after moving to Rochester.

as an office. For a long time it was the custom of Mr. Smith to lock himself in this car whenever it was in Smethport, in order to prevent the serving of papers on him by Elisha Kent Kane, of the Mt. Jewett, Kinzua & Riterville.

The Mt. J. K. & R. desired a crossing over the P. S. & N., at Smethport, in order to get a rail connection with the Pennsylvania R. R. (their original plans to connect at Farmers Valley having fallen through), but the Shawmut Line did everything they could to prevent this, to the tune of more than \$100,000 and several clashes of laboring forces. In early 1904, Mr. Kane made a trade with S. S. Bullis of the Bradford, Bordell & Kinzua narrow gauge road, whereby he obtained the narrow gauge line crossing the Shawmut at Smethport. Since the B. B. & K. was the older road, it could not be displaced, but the P. S. & N. refused to allow Mr. Kane to widen the gauge. Therefore, in order to get to the P. R. R., Mr. Kane built a ferry car having narrow gauge trucks, with a standard gauge track on top. He would run his cars upon this, shove it across the Shawmut, and unload them on his own switch and connection with the P. R. R. He would receive cars from the P. R. R. by a reversal of the procedure. Thus, Mr. Kane got the best of the Shawmut, but he could never widen the gauge.

A contemporary New York paper, the *Portville Autograph*, for Jan. 27, 1904, gives a more detailed account of Mr. Kane's purchase. "Through a deal made with S. S. Bullis who recently bought the B. B. & K., from the Goodyears, Elisha K. Kane has traded the Big Level road, between Ormsby and Mt. Jewett, to Mr. Bullis for the B. B. & K. Smethport branch, running from Ormsby to Smethport. This puts Mr. Kane in possession of all the business from Bradford to Smethport and from Kane to Smethport. The Big Level running from Ormsby to Mt. Jewett, belonged to Mr. Kane and, when he cut the lease off from the B. B. & K., they were cut off from running their trains from Bradford to Kane, which was the valuable end. The deal restores the Bradford line to the B. B. & K., and gives Kane full swing at Smethport. Mr. Kane also gets a crossing over the Shawmut, at Smethport, for which a hundred thousand dollars has been spent by the Shawmut to prevent. This crossing is a narrow gauge one but he will probably apply to the courts for a standard gauge crossing. Before he made this deal he had the B. B. & K. to fight for his first crossing before he came to the Shawmut. This will in all, likely be more fun for the Italians who have fought two bloody battles over this crossing."

The second "passenger car" was No. 299, the "Janelyn," a very modern-looking observation car, which was used as an office in the latter days of the Shawmut. In 1942, some Erie officials and Army brass were taken in the "Janelyn" over the Shawmut lines, to see if the latter could handle Erie trains in case of wreck, heavy traffic, or bombing. Subsequently, the Erie ran several freight trains over the Shawmut when their own lines were tied up. They entered at Hornell and followed the route formerly taken by passenger trains as far as Friendship, where they returned to the Erie tracks. It was necessary to use Shawmut locomotives, as the Erie and P. R. R. engines tended to

spread the rails. There was at least one troop train, because Mr. Nugent's brother-in-law happened to look out from one and recognized the station at Bolivar.

As of Oct. 11, 1943, there were sixteen locomotives in service,—numbers 22, 23, 50, 51, 58, 59, 62, 68, 69, 70, 71, 72, 73, 74, 75, 81. There was one subsequent addition, No. 76, ex-P. & S. No. 226, in November, 1944; one * of the first list must have been scrapped, because when the road was closed there were still sixteen. These were sold to the S. P. N. Realty Holding Corporation and were scrapped by the Bethlehem Steel Company, at Lackawanna, N. Y. plant. (This information was given in a letter from the Luria Brothers & Co. Rumors had come of the engines sold to other roads, particularly in Canada; one of them, which had been mentioned in this connection, wrote they had NOT bought any Shawmut engines.) The rolling stock had been allowed to deteriorate badly owing to lack of money.

The departure of the last group of engines was described in a local paper; Nos. 71 and 72 were used in salvage trains, the picture showing No. 71.

St. Marys Daily Press, July 9, 1947. "Yesterday afternoon five Shawmut engines left St. Marys on the P. R. R. bound for the scrap pile in Buffalo. Just two engines remain—one in use on this end and the other at the north and engaged in removing rails.

"The group consisted of three freight engines Nos. 59, 68 and 76, and two yard engines Nos. 22 and 23. It was impossible to get a group picture of the engines as rail cars were placed between them.

"It was understood that when the first group left St. Marys they were bunched and a wreck resulted in going up Keating Summit grade."

Fixed Property

The office building at St. Marys looked like an old house. The one at Angelica was built by the Lackawanna & Pittsburg; it had an odd eight-sided tower, on top of which the weathervane, with letters of this old road, can still be seen when the trees are bare. It is now (1950) used as a residence.

Most of the stations were wooden, box-like affairs consisting of one or two rooms and facilities for coal storage. (The winters are cold in this region!) More pretentious yellow brick stations were built at Olean, Bolivar, and Angelica; the latter is now (1950) used by a dealer in hay and grain. The wooden station at Angelica was built in 1895 by the Central New York and Western, and was burned on Jan. 24, 1919; it was replaced by the brick structure in 1925. After the road had been closed the old wooden stations were quickly salvaged for garages, etc., by the local farmers. The Smethport station is now (1951) a restaurant.

There were engine and car shops at both St. Marys and at Angelica. The old coach and woodworking shop appears in several of the pictures.

* The only ones excluded were Nos. 22, 23, 59, 68, 71, 72, 76, since these were specifically mentioned in the last reports.

In the one showing the new shipment of Baldwin engines, they are facing north. The main track and passing siding is at the left of the coach shop, between the two lines of telegraph poles. In the birds-eye view before the fire the coach shop is seen at the left as a long building. Frank Sullivan Smith's private car, No. 99, was stored here.

The Angelica shops were burned on May 15, 1917. The damage included engines Nos. 56 and 20 or 21. The pictures show the area before and after the fire; an old, white refrigerator car is visible in one. The burned engines may be seen in the ruins; the boilers of old engines, No. 11 and 18 used for generating steam for the shops, are also visible. A large barn-like structure replaced these early shops at Angelica. It contained tracks for both cars and engines, and was still standing in 1950.

The shops at St. Marys were burned in 1941, with damage to locomotive No. 58. *Friendship Register*, Mar. 27, 1941, "Fire swept the locomotive and maintenance shops of the Pittsburg, Shawmut and Northern at St. Marys, Pa., yesterday afternoon about 5:15 P. M., following an explosion of an acetylene welding tank. Two locomotives were badly damaged." The loss was about \$100,000.

A large barn-like sheet-metal engine shop was subsequently built at St. Marys and is still standing (1950). All engine work was done here.

Personnel

The names of officers and directors of the PS&N have already been given. As usual, new directors were elected from time to time, and not all have been recorded here; those who held office for a long period are included as far as possible. John Byrne was president until he resigned in 1903, although he retained his position as chairman of the board. His successor was Lorenzo M. Johnson; D. F. Maroney of St. Marys was vice-president in charge of operation and traffic, while Frank Sullivan Smith (CNY&W) became vice-president and general counsel at this time. New directors elected were George C. Atkins, C. E. Barrett, Frank H. Davis, and George B. Sheppard, all of New York City.

A notice from the Pittsburg, Shawmut and Northern Railroad, 54 Wall St., New York, Dec. 1, 1904: "Frank Sullivan Smith was duly elected Acting President of the Company, in place of Lorenzo M. Johnson, deceased. On Dec. 31st Mr. Maroney left the company and his office is abolished."

Frank Sullivan Smith was born at Short Tract, in the town of Granger, Oct. 14, 1851, the son of Dr. Wm. M. and Adaline (Weeks) Smith. Although a child of but ten years of age, he had the opportunity to see something of the war, by reason of passing the latter part of 1861 and the early part of 1862 with the 85th Reg. N. Y. Vols., of which his father was surgeon. From 1865 to 1868 he attended the Angelica Academy where he prepared for college. He entered Yale University in 1868, and graduated in 1872. He married, Oct. 17, 1877, Miss Clara A. H. Higgins, daughter of O. T. Higgins, Esq., of Rushford, and a

sister of Gov. Frank W. Higgins (1904-6). He was attorney for the Genesee Valley Canal Railroad Company, during the construction of the road between Olean and Rochester, and for its lessee, The Buffalo, New York and Philadelphia Railroad Company, and its successor company, from 1881 until 1887. He was president and general counsel of The Allegany Central railroad company from its formation in 1881 until its consolidation with The Lackawanna & Pittsburg railroad company in 1883, and was vice-president and general counsel of the latter until December, 1884. In the spring of 1887 the trustees of Cornell University invited him to take charge of the law school of the University as its Dean. He declined the offer preferring to remain in the active practice of his profession. He was delegate to the Republican National Convention of 1884 and never missed a subsequent one; secretary of the Republican State Committee 1887 to 1891, general counsel of the Scioto Valley and New England railroad company from its formation until its absorption by the Norfolk & Western Railroad Co. in 1890; attorney for the receivers of the Richmond and Danville Railroad Co. (now Southern) 1893 and 1894; a director of the Allegheny & Kinzua; and vice-president and general counsel of The Central New York and Western railroad company; and finally president and receiver of the Shawmut until his death.

He had other business interests as well as membership in many clubs and social organizations. For instance, he was president of the Olean Land Co.; vice-president of the Wilson River Lumber Co.; director of the Hamilton Trust Co.; a trustee of Alfred University, and of the New York State School of Agriculture. He died on Nov. 15, 1920, and left an estate of perhaps \$500,000. He was looked on with considerable pride by the citizens of Angelica.

Traffic

A few news clippings will show some of the activities of the Shawmut Line for the early part of the twentieth century. At times they seem to have been overworked—in marked contrast to later years. It is a matter of debate as to whether or not they might have been a successful road had they not had the millstone of high fixed charges around their neck.

The New York and Pennsylvania Railroad connected at Ceres, and contributed some traffic. Says the *Oswego Valley News* in Sept., 1901: "The passenger traffic on the Shawmut Line is good, the trains being loaded every trip. A great many passengers are complaining that they have to stand in the aisle. They think that the management should put on more coaches."

A *Buffalo News* for Nov. 9, 1901, notes: "The extension of the New York and Pennsylvania R. R. from Shinglehouse to Ceres, 5 miles, was opened for traffic today, giving the N. Y. & P. 57 miles from Canisteo to Ceres. It connects with the Erie at Canisteo, and with the Shawmut at Ceres, hence is a valuable feeder to both. During the last two years a large number of manufacturing plants located in the Oswayo Valley to work up hardwood forests. At Shinglehouse, in the famous

Potter County gas belt, is one of the largest glass factories in the world; it covers nine acres, uses one million cubic feet of gas per day. There is an unlimited amount of 92% silica rock nearby. The N. Y. & P. will use the Shawmut yards at Ceres, and will run through trains from Canisteo."

The *Bolivar Breeze* for Feb. 16, 1902, states: "M. S. Blair said an order for ten new locomotives would soon be placed. (These were the 2-8-0s in the 50 series.) Every engine is now in active service and more are a necessity." "The familiar deep red Erie railroad coaches are to be replaced with olive green ones with the single word Erie." Apparently the Erie was once a more colorful road!

The *Ceres Mail* announces that a train on the Shawmut road out of Bolivar overtook a calf. The calf had probably become used to the cars and was no longer afraid of them. The *Port Allegany Reporter* says: "Shawmut trains out of Bolivar have cowcatchers on the rear to prevent stock from climbing on the trains and biting the passengers." This suggests slow-motion service!

Allegany County Advocate, Sept. 3, 1903. "Last week the Shawmut Line was connected up from Smethport to St. Marys. It is given out officially that as soon as the Shawmut is running through trains that the United States Express Co. will enter this territory over the Shawmut and that offices will be opened in all towns on the new line. It will thus be enabled to reach many towns from which it was previously shut out (Olean, Bolivar, Friendship, St. Marys, etc.). The connection with the Shawmut will be made at Nunda Jet. The American Express Co. now has an office in Bolivar, its business being carried by the Shawmut." The Nunda Jet. connection implies that the Rochester, New York and Pennsylvania was still in operation, from Swains.

Bolivar Breeze, Nov. 12, 1903. "The Shawmut Line is working up a good passenger business traffic on the new line from Olean to Mt. Jewett. Very little freight has been handled as yet but there is a prospect of a good freight business. The line is largely patronized by Smethport people as it lands them in the borough whereas the Pennsylvania leaves them at E. Smethport, a mile away from the business section of Smethport."

Olean Times, Feb. 1904. "Buffalo & Susquehanna engines No. 188 and 119 have been pressed into service by the Shawmut to take care of the immense coal business. Combination car No. 131 is in the shops for overhauling. Engines Nos. 14, 21 and 43 are in the shops for rebuilding. No. 2 will be the next to receive attention. The latter was left dead and full of water at the yards at Hornellsville one night recently, and as a result every pipe is frozen full of ice and many have burst."

Unidentified, Feb. 13, 1904. Traffic on the P. S. & N. has been nearly suspended for the past two days; no mail was received over it at Bolivar. A passenger train on the St. Marys division was derailed, and one on the Angelica division got stalled in the snow near Hornellsville. "Railroad men have been working night and day and suffering from

the cold." The Olean Street Ry. was unable to run cars between Bolivar and Olean on time, some being skipped entirely.

Allegany County *Advocate*, Feb. 4, 1904. "The Shawmut has evidently made a few sales of coal judging from the number of coal trains that have passed over the line going north during the past few days. Sunday night three engines hauled a long string of loaded Shawmut coal cars to Hornellsville. It looks like a railroad."

ibid., Feb. 18, 1904. "Hereafter the Shawmut excursion trains will be equipped with a ladies' coach and no drunks will be allowed to ride in it. Ladies have heretofore been annoyed by drunken fights, and this action is taken for their benefit and will meet with the hearty amen of all ladies."

Five big engines are due from the Baldwin Locomotive works March 1st for the Shawmut Line."

ibid., Feb. 25, 1904. "Four new day coaches and four combination cars have been ordered from the Barney & Smith Car Works." (This was a Dayton, O., firm.)

Hornellsville *Times*, May 12, 1905, contains brief items of interest concerning the welfare of "Hornellsville's prosperous road." "... about \$500,000 will be expended within a short time . . . will add 300 new box cars . . . five new locomotives. The Shawmut is now running a regular caboose instead of an old passenger coach on its regular freight trains. This in itself gives an air of business to the road not previously experienced. Residents of the country along the Shawmut are watching with considerable interest a motor speeder which is making frequent trips up and down the line. The motor car is of high speed and from all indications it would give a good race to most of the locomotives seen in this section of the state."

Passenger Train Service

A Shawmut timetable from a *Railroad Guide* for June, 1902, is reproduced here. It will be noticed that trains were scheduled on the various standard gauge segments, utilizing portions of the Pennsylvania R. R. to a considerable extent. There was little change in the timetable of Oct. 26, 1903, but in the first one, dated Dec. 27, 1903, after the widened road south of Angelica was opened, there was a number of through trains; these are listed in the *Allegany County Advocate* for Dec. 24, 1903 (see p. 29).

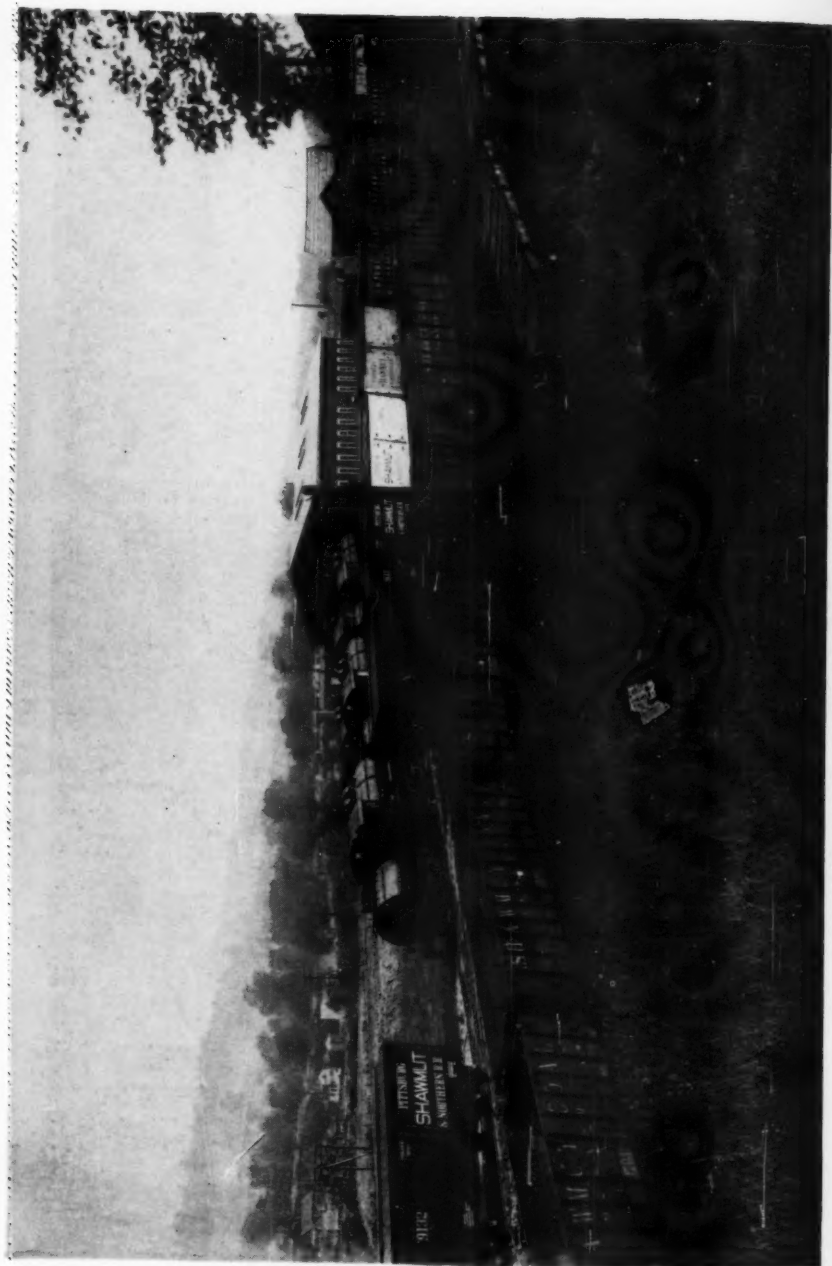
In a very pretentious 8-page timetable * dated Nov. 25, 1906 (and full of advertisements!) there were trains as follows (daily except Sunday). Two trains each way between Hornell and Olean, taking a little over 3 hours for the 75.5 miles. The morning trains were Nos. 7 and 10, and afternoon trains, 8 and 9; the odd numbers were to the south and west. These trains made connection with through trains on connecting trunk lines. There were likewise two trains between St. Marys and Brockwayville; Nos. 1 and 3, 2 and 4. In addition, No. 14 left Mt. Jewett for Larabee, where it was turned and became No. 5, Larabee to

* Cover designed by R. Soranson.



A Freight Climbing West Notch; #75 and 76 on front, 3 pushers

Courtesy Stuart M. Barney



Five new Baldwin engines, Nos. 65-66 arrive on the Shawmut

St. Marys. Its opposite, No. 6, ran from St. Marys to Smethport (where it connected with No. 12, Mt. Jewett to Olean) at which point it was turned, becoming No. 13, Smethport to Mt. Jewett. No. 11 left Olean in the late afternoon for Mt. Jewett.

In addition to these "through" trains there were a few locals: four on the Kersey R. R., eight on the Clarion River Ry., six from Wayland to Hornell, and two between Olean and Olean Jct.

In the last public timetable, issued on June 16, 1935, service had been drastically reduced. There was a single mixed train each way between Wayland and Olean, with a connecting train for Hornell.

There is now a long time lapse. Bolivar *Breeze*, Mar. 20, 1930, complains about the lack of passenger service. In 1929, the best year, the Shawmut collected \$70,306 at Bolivar for freight. Two columns are devoted to Pres. Dickson's replies to the many questions raised. Since the steam passenger service was run at a \$28,000 loss, it had been decided to invest \$28,000 in a new gas car. In 13 months this lost \$5,410.

Olean *Times*, June 17, 1935. "After thirty years of continuous service the last passenger run on the Pittsburg, Shawmut and Northern was made Saturday. Freight service will be continued."

Originating Freight

It is hardly necessary to state that the principal item was coal, since the purpose of building the road was to transport this substance. The main coal operations were at Brandy Camp and in the Weedville-Tyler District. The former was also served by the Erie, and the latter by the Pennsylvania (and, during its existence, by the Buffalo & Susquehanna). The railroad company controlled the Shawmut Mining Co., the Shawmut Coal & Coke Co., the Shawmut Commercial Co., the Kersey Mining Co., and over 14000 acres of coal lands in Elk, Jefferson, and Clearfield Counties, having resources of 40,000,000 to 50,000,000 tons, several mines being located within a radius of 20 miles from St. Marys.

Coal accounted for approximately 65% of all business; this was about equally divided between coal originating at the mines mentioned, and that which was received in interchange from the Pittsburg & Shawmut at Erie Jct. Practically all this coal was handled in bridge movement and was turned over to the Lackawanna at Wayland. Some figures of cars of coal handled may be of interest: (1944) local, 1,671; interline, 7,390; bridge, 6,325. (1945) local, 1,224; interline, 4,538; bridge, 5041. The volume of other bridge traffic was negligible.

Other industries along the line included sewer pipe, carbon plants, and tanneries in St. Marys; oil refineries at Bolivar and Farmers Valley; a tile plant at Olean; clay conduit works at Clermont and Drummond; silica gravel at Eldred; miscellaneous manufactured goods at various points. After the railroad was abandoned, the Pennsylvania R. R. took over 16 miles of switching track serving industries in Olean, St. Marys, and Farmers Valley, while the Erie bought the small spur at Hornell. The Bolivar refinery was discontinued. The B. & O. by virtue

of ownership of the residue of the B. & S., now serves one mine in the Tyler district.

Agricultural products originated on the northern end (north of Bolivar), mainly potatoes, onions, hay and straw. Many formerly fertile farms have "run out" and been abandoned, resulting in less produce, and a smaller population. Operations were suspended here in 1946.

Rochester Democrat and Chronicle, Oct. 29, 1939—

Boom Strikes Tiny Railroad

Bolivar—(AP)—For the second time in nearly 35 years, train wheels are clacking out a merry tune over the road bed of the Pittsburgh, Shawmut & Northern Railway.

In receivership since 1905, the 190-mile road has braved slumps and depressions, keeping its engines puffing, its men at work. Now its freight cars are piled high with coal on the run from St. Mary's, Pa., to Wayland, in upstate New York.

Since the middle of September, an average of six trains a day have been dispatched, the majority of them carrying soft coal to be exported to Canada from points along the Great Lakes.

Only two years ago the road was granted permission by the New York Public Service Commission to drop one of the two daily trains in each direction.

Financial

No attempt has been made to follow the financial history of the Pittsburgh, Shawmut and Northern. I do not feel qualified to interpret the mass of data which covers many pages—it would require at least a banker and a lawyer. Many of the records resulting from court proceedings are doubtless stored in the Allegany County court house at Belmont. However, I have set down some of the obvious facts that seem to be of some interest. There are also included a few items from current newspapers, which may arouse speculation and curiosity. It appears to me that the fixed charges were much too large for the size of the railroad. On page 757 of the 1920 Moody's it reads: "It seems obvious, judging from the record of this company during recent years, that in a reorganization there will have to be a radical cutting down of fixed charges before the company can be placed permanently on its feet." It is not surprising to find that the company defaulted on the bond interest in 1905, so that the road went into receivership. Whether this would have happened had Henry Marquand & Co. not failed in 1901 will never be known. This receivership was the longest one on record, and was terminated only by the abandonment of the railroad in 1947.

At the time of the consolidation in 1899, the Pennsylvania component roads were making money, and had a surplus annually, while the Central New York and Western had a deficit. The union was a natural development, aimed to strengthen the weaker road, and put the combination in a more favorable position to solicit through freight. A competing coal line to Lake Ontario from the coal fields, in competition

with the Buffalo, Rochester & Pittsburg, and the Northern Central at Sodus, seemed a reasonable venture at the time. Unfortunately, the Western New York and Pennsylvania had the best route to Rochester from points also touched by the Shawmut, which fact was of no help.

When the road was incorporated, 100,000 shares of stock were authorized, but only 60,000 were issued, which, at par, realized \$6,000,000. There were 83 stockholders. I have not traced the bondholders; the principal one eventually was The Pittsburg & Shawmut R. R. Co., which, in 1931, held \$58,000 out of \$164,000 1st 5s gold, due Feb. 1, 1949; \$11,953,000 out of \$14,491,600 1st 4s of 1952 gold, due Feb. 1, 1952; \$322,000 out of \$2,044,350 6% collateral notes, due (but not paid) June 1, 1929.

According to the *Railroad Gazette* for Mar. 2, 1900, Henry Marquand & Co. are offering \$2,000,000 additional bonds of the Pittsburg, Shawmut and Northern. The mortgage provides for a \$12,000,000 bond issue and the company has authorized \$6,000,000. \$4,000,000 has been issued and the proceeds applied to the purchase and improvement of properties, including building of connecting lines and acquisition of equipment. New bonds to complete the line between the coal mines and Wayland, for building necessary branches, etc.

The Mt. Jewett *Herald* for July 5, 1901, makes some very caustic comments:

"It is in the neighborhood of a year since the Herald first directed attention to the actual status of the Pittsburg, Shawmut and Northern Railroad Co. in the commercial and industrial world and gave an outline of the scheme projected by the men at the head of the institution, disclosing its weakness, and the possibilities thereunder for the transferring of one man's money to another man's pockets. Those at all conversant with the situation at the time, recognized the truth of our conclusions, but unfortunately, while the truth is mighty, and still prevails, it does not always prevail at the proper time, and it is owing to this that a great number of investors are today bewailing the fact that they have been induced to exchange good money for an experience which as yet does not appear to them as worth the purchase price.

"Along in April we received from Henry Marquand & Co., bankers, of New York City, an offer to sell to us or any other fellow, fifty-year first mortgage 5 per cent gold bonds of the Pittsburg, Shawmut and Northern Railroad Co. The offer was accompanied by a statement of the affairs of the company which covered just so much as the gentlemen interested judged would assist in selling bonds, and sustained our previous statement to the effect that \$12,000,000 in bonds were to be issued on the strength of property, which good judges have determined to have a cash value of not to exceed \$3,000,000. The prospectus also informed us that these bonds were secured by an absolute first mortgage to the Colonial Trust Co., of the City of New York as trustee, upon all the railroads, lands, stores, houses, franchises, etc., of the various companies, including 9,814 acres of coal land situated in Elk County, Penn., and further that the mortgage also covered the entire capital stock of the mining company operating the mines, which was equal in quantity, and we suppose in quality to that of the bonds.

"It also informed us that \$4,000,000 of the proposed issue were then outstanding, and that the net profits from August, 1899, to April, 1901, on the (incomplete) system, had been \$51,901.

"We didn't purchase any of the bonds, but it appeared that Marquand & Co., on the strength of a bonus of 25 per cent of stock on every dollar of bonds purchased, invested to the extent of Lord only knows how much—anyway, sufficient to break them, and with them the Seventh National Bank of New York City, the officials of this institution, having apparently over-stepped the bounds of legitimate banking in their endeavor to foist along a "sure thing" and are now face to face with the doors of the pen as a result of investing good money in poor enterprises. Marquand & Co.'s failure is said to be for \$8,000,000.

"To us the most highly characteristic development from the ranks of the Pittsburg, Shawmut and Northern people since the crash, was the reply of the manager of the company's New York office when questioned as to the effect the failure would have on the fortunes of the road: "They have our bonds, we have their money. We're all right." In other words, we have the money, they have the experience, and it comes high.

"And this, by the way, is identical with the reply put forth on occasion by the man with the three-shell game, when his dupe puts up his wail. There is little difference except in magnitude between exploiting useless railroads such as the P. S. & N. and that of the thimble rigger."

On June 30, 1901, there was a surplus of \$158,550; this was rapidly reduced by a succession of annual deficits, which for five years read as follows: \$38,341; \$63,999; \$74,483; \$123,497; \$238,922. At the time of the last the total deficit had reached the figure of \$497,798.

The Pittsburg, Shawmut and Northern went into receivership on Aug. 1, 1905. Headlines in the Hornellsville *Morning Times* for that date read: "'The Shawmut in Receiver's Hands' Defaulted on semi-annual interest on bonds. Frank Sullivan Smith is one of the Receivers." "Buffalo, Aug. 1. Receivers were appointed by Justice Kenefick in the supreme court today for the Pittsburg, Shawmut and Northern Railway. The order was made on the application of Arthur H. VanBrunt, of New York, representing the Central Trust. The trustees of the bondholders and Frank Sullivan Smith were appointed receivers. The road defaulted on the semi-annual interest of \$15,000,000 of bonds due today."

Buffalo *Courier*, May 8, 1906. (abstracted)

"Justice Kenefick this morning handed down a decision vacating an order of Feb. 21, which had permitted Frank Sullivan Smith to issue receiver's certificates for \$3,800,000. The order did not affect certificates issued prior to Feb. 21. The receiver asked for this large sum in order to put the road on a good running basis and to rehabilitate mines operated by owners of roads. His application was opposed by the bondholders who denied the right of the receiver to relegate their bonds to a place second to that to be taken by the proposed certificates. Judge Kenefick says he does not question the good faith of the receiver,

nor the fact that the betterments would probably be for the advantage of the bondholders, but that such expenditures are not warranted by the facts before him."

Buffalo *Courier*, May 8, 1906 (also in the *Hornell Tribune*, with a few more details. It may be noted here that, on May 11, 1906, the name of the town of Hornellsville was officially changed to Hornell.)

"Counsel for Florence A. Cochran of Boston has filed in the office of the circuit court (at Buffalo) a complaint in which she seeks to foreclose on all outstanding bonds of the Pittsburg, Shawmut and Northern. She also asks for the removal of Frank Sullivan Smith, alleging that he is an improper person to hold that position and has wasted the funds of the road. . . . The plaintiff alleges that all the improvements made was the building of 33 mi. of road, for the construction of which the company entered into an agreement with the Interior Construction & Improvement Co. for \$4,500,000 and to pay which it issued \$9,000,000 bonds. It is further alleged that the profits were divided among the officers of the construction company. Alleges that officers of railroad and construction company are the same and 'that the enormous profits derived by the contract with the railroad company were divided among the officers of the construction company.' Atty. Metcalfe stated the total amount alleged to have been misappropriated in the manipulations of the railroad's affairs is about \$11,000,000, and the receiver is now trying to get permission to issue certificates for \$4,000,000 more to do the reconstruction work which was supposed to have been done when the bond issue was raised from \$6 to \$15,000,000."

In another unidentified clipping it is pointed out: "Mr. Smith's fame as receiver of the road is very apt to overshadow the fame which he enjoys as brother-in-law of the governor of the Empire State. It was charged . . . that Smith and his associates used the railway enterprise as a get-rich-quick scheme for their own benefit." A log of figures about bond issues also included.

Portville *Autograph*, June 15, 1906.

"Many things of interest to investors in railroad securities came to light in the suit recently brought by Miss Florence Cochran of Boston, in the U. S. Court in Buffalo, for the purpose of having Frank Sullivan Smith removed from the receivership of the Pittsburg, Shawmut and Northern, but none attracted as much attention as her allegations about the Central New York and Western Railroad bonds.

"Prior to 1899, the Central New York and Western was owned by Frank Sullivan Smith, Major John Byrne and a few others. "These gentlemen were also the organizers of the Pittsburg, Shawmut and Northern Railroad in Feb. 1899. They held the principal offices in the new company, and their clerks, constituted in a large measure, the board of directors.

"It was, therefore, not a difficult matter to arrange for the purchase of the Central New York and Western by the Pittsburg, Shawmut and Northern, and it was arranged on this basis. At the time of the sale, the outstanding bonds of the Central New York and Western amounted to \$242,000, and the owner of these bonds agreed to turn over the

property for the same amount of Pittsburg, Shawmut and Northern bonds, plus 5%. This was done and the Central New York and Western became a part of the Pittsburg, Shawmut and Northern, and formed a part of the railroad that afterwards carried a very large bond issue.

"The record shows that the bonded debt per mile of the Pittsburg, Shawmut and Northern is \$80,000, so that the Central New York and Western which cost \$242,000 has been used as an asset to issue over \$4,000,000 of bonds.

"From 1899 to 1905 it was supposed that the Pittsburg, Shawmut and Northern had complete title to the Central New York and Western, but a few months after, the Pittsburg, Shawmut and Northern went into the hands of a receiver, Frank Sullivan Smith. In Aug. 1905, suit was brought in the U. S. Court by the Pacific Improvement Co.,* asking for the sale of the road, as it claimed it was the owner of \$950,000 first mortgage bonds of the Central New York and Western, which had defaulted on interest since 1896. The Pacific Improvement Co. is owned by close friends of Receiver Smith.

"Were these bonds, now claimed as being owned by the Pacific Improvement Co., in existence in Feb., 1899, when the bonded debt was given at \$242,000, and the property sold? If they were not, and this seems to be the natural inference, how did they get into the hands of Smith's friends six years later, viz., this year, 1905?

"Another suggestive fact is that Smith, as receiver of the Pittsburg, Shawmut and Northern Railroad, has made no effort to prevent the sale of the road, to satisfy this alleged debt of \$950,000 to the Pacific Improvement Co.

"The Central New York and Western road, when sold by Smith and Byrne to the Pittsburg, Shawmut and Northern Railroad, extended from Wayland, N. Y. to Olean, N. Y., a distance of 76 miles. It consisted of 35 miles of right of way, Wayland to Angelica, that after the crop of weeds was removed by the Interior Construction Co. (also owned by Smith and Byrne) revealed two strips of rails, some of which have since been used in the coal mines, and much sold as scrap, and a complete line of rotten ties. From Angelica to Bolivar, 18 miles, the alleged railroad consisted of a line of decayed telegraph poles, to which was attached a rusty old telegraph wire. From Bolivar to Olean, 18 miles, the line was a narrow gauge with light rails and rotten ties.

"Besides the above, the Central New York and Western owned terminals and shops at Angelica. These consisted of a few old tracks and two or three old sheds, and one converted decayed passenger car which was used as a store house."

I have not learned the outcome of the Cochran suit. However, a long article appeared in the *Financial World* for May 8th (about 1909), which takes the viewpoint of an uninterested observer, and credits Frank Sullivan Smith with considerable accomplishments. The abstract of this article follows.

* Mr. Lathrop stated that the U. of Calif. also owned many PS&N bonds.

The article begins with a statement of the formation of the Pittsburgh, Shawmut and Northern by the 1899 consolidation; then "That the road six years later found itself unable to earn the interest on its bonded indebtedness, was not due to the impracticability of the original promoters' plans, but principally caused by their lack of foresight in putting the property in such a sound physical condition as to permit the carrying of its principal tonnage at a fair profit. Nor was the property in such homogeneous shape as to work smoothly in all its parts. There were too many heavy grades and sharp curves on the southern end, which were not only responsible for excessive transportation charges, but also brought the cost of maintenance to a high figure. Another vital defect was the lack of proper appliances upon the newly-constructed portion of the road at its northern end. When Frank Sullivan Smith was appointed receiver . . . he at once realized the necessity for placing the property in such a physical condition as would enable it to handle its business economically. To this end he brought all his energies to bear, and with the aid of some of the best known engineers and railroad experts, grades were reduced, sharp curves eliminated, and the roadbed ballasted and equipped with 85-lb. rails to stand the strain of heavy traffic. As a result of his administration of the affairs of the road it has shown each year a steady increase in earnings, and a constant improvement in its physical condition. Instead of a deficit as formerly, the total net earnings of the road, after paying taxes and interest, on the outstanding receiver's certificates and car trusts for the year 1907 were \$264,359.31 and \$289,350.21 for the year 1908. These net earnings are significant in so far as they indicate the successful termination of the receivership after the important improvements now under way are finally completed." It now operates 240 miles of road, owning 188.6, the Brookville and Mahoning's 29.4 mi., and 22 of trackage over Erie and P. R. R. (the latter for 11.1 mi. from Prosser to Coryville). It is here that principal improvement is now planned; lease can be terminated by a 6 months' notice! Receiver has been authorized to issue 5% certificates of indebtedness, payable in 5 yrs., to provide for this construction, and other purposes. Authorized, \$1,600,000; will issue but \$525,000 this year; remainder held to retire certificates now outstanding, as they mature. Construction of this important link, with grade of 0.15 ft. per mile will enable it to double the present load per train, save cost of trackage and delay of trains caused by present congested traffic of the P. R. R., and remove the fear of abrogation of trackage rights. Passenger traffic small, but self-sustaining. It now has 45 locos., 3,613 freight cars, 21 passenger cars. Ends with a long prospectus on the extent and future of coal fields.

The history now skips several years, and jumps to Dec. 8, 1915, when a committee was formed to effect a consolidation of the Pittsburgh, Shawmut and Northern and Pittsburgh & Shawmut, "its aim being to take the former out of receivership and place both on a sound financial footing" (1916, Poor's). The committee, which consisted of Frank H. Davis, Samuel Fuller, John Hubbard, Walter R. Leigh, Charles Sargent, and Theodore P. Shonts, engaged an engineer, W. H. Coverdale,

of New York, to investigate and see on what basis they should undertake a reorganization of the Shawmut, and whether the consolidation with the Pittsburg & Shawmut should be made a part of the plan. It will be recalled that Genl. Thomas Hubbard had planned to combine the two roads and build a line to Lake Ontario, competing with the B. R. & P. and the P. R. R. (pg. 62) but his death a few months before left affairs in an unsettled condition—hence this committee.

Judging from the statements in consecutive *Poor's*, nothing was done. There appears to have been a strong disagreement between the two groups, one backing each road, for, in 1919, it was noted that the Pittsburg & Shawmut claimed the right to divert traffic from the Pittsburg, Shawmut and Northern, on the grounds that the P. & S. was built as a southern extension of and to act as a feeder to the P. S. & N., Frank Sullivan Smith secured a temporary restraining injunction to prevent this, but it was not made permanent, and the Pittsburg & Shawmut went its own way. A consolidation was still expected in 1919, as soon as the Shawmut Line was reorganized.

Apparently Mr. Smith was allowed to issue at least one series of receiver's certificates, because Mr. Dickson, in the hearing in 1945, admitted no interest had been paid on them since 1932.

On Nov. 1, 1932, a plan of reorganization was finally proposed, but it was not approved by the Interstate Commerce Commission, and was abandoned therefore. Details of the plan, describing the new securities, are given in *Moody's* for 1933, p. 1921.

As receiver, Mr. Dickson drew a salary of \$15,000 per year, while his assistant, P. B. McBride got \$9,000. Mr. Dickson never made a report during his tenure, although this was a stipulated condition. These points were brought out just prior to the demise of the road. Justice Bard, in Pittsburgh, removed him from the receivership on Nov. 29, 1947. The clippings from the contemporary papers give a day-by-day description of the hearings. *Pittsburgh Press*, Nov. 6, 1945.

"A loss of over 30 million dollars in the 40-year receivership of the Pittsburg, Shawmut and Northern Railroad Co. was revealed in a report filed yesterday in Federal Court by Receiver John D. Dickson of Wells-ville, N. Y." . . . "The balance sheet listing the company's finances from 1905 on Sept. 30, 1945, shows a loss of \$30,481,378.24. Assets are listed at \$28,866,363.09 and liabilities total \$59,347,741.33." . . . "Mr. Dickson reported that in 1905 the railroad had 24 locomotives, 752 box-cars, 1635 coal cars, 68 refrigerator cars, 10 passenger cars, eight combination cars, 3 baggage cars, 15 cabooses, 66 flat cars and 41 work cars.

"The company now has 16 locomotives, 110 freight cars, 10 cabooses, and 41 work cars, according to Mr. Dickson."

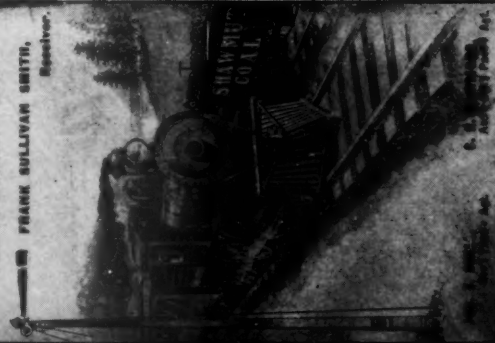
Following the removal of John D. Dickson as receiver, after he had made the first report in the 40 years' bankruptcy, Thomas C. Buchanan, of Beaver, Pa., and Robert C. Sproul, Jr., of Pittsburgh, were appointed as joint receivers on Nov. 29, 1945.* After several

* Their allowance of \$625 each per month was later (July 29th) deemed inadequate and increased to \$1000!



THE
**PITTSBURG,
SHAWMUT**
AND NORTHERN R.R.

FRANK SULLIVAN SMITH,
Receiver.



W. J. HARRIS, Agent.
P. S. SMITH, Receiver.



THE
**Pittsburg,
Shawmut and
Northern**
RAILROAD COMPANY.

Through Passenger Service
between

ST. MARYS, SMETHPORT,
OLEAN, FRIENDSHIP,
ANGELICA, HORNELLSVILLE,
WAYLAND, BUFFALO
and NEW YORK.

Effective Sunday, Dec. 27, 1903.

EASTERN STANDARD TIME.

D. F. MARONEY,
Vice President,
C. J. RENWICK,
Gen'l Pass. Agent,

ST. MARYS, PENN.

EFFECTIVE JUNE 15, 1903

The
**Pittsburg,
Shawmut and
Northern
Railroad**

JOHN D. DICKSON
Receiver.



Time Tables

F. H. WELLS,
General Passenger Agent,
St. Marys, Pa.

File 40-1
(1901)

This is their last timetable!

Timetables of the P. S. & N.

THE PITTSBURG, SHAWMUT & NORTHERN RAILROAD CO.

General Office of the Company, 48 Wall Street, New York City. 6-1902 Off. Ry. 2

JOHN STARR, President, New York City.
D. F. MARONEY, Vice-President, in Charge Operating and Traffic, St. Mary's, Pa.
R. E. CARTWRIGHT, 4th Vice-President, in Charge of Coal Sales and Traffic, St. Mary's, Pa.

LEWIS F. WILSON, Secretary, New York City.
HARRY M. GOUGH, Treasurer, St. Mary's, Pa.
KERRY S. HASTINGS, Auditor and Assistant Treasurer, St. Mary's, Pa.
CHAR. E. HAMMOND, General Freight and Pass Agent, Clean, N.Y.
M. F. DONALD, Chief Engineer, Clean, N.Y.

CLEAN DIVISION.									
May 26, 1902.					May 26, 1902.				
5	3	1	Mile		2	4	8		
P.M.	A.M.	A.M.		LEAVE	A.M.	P.M.	P.M.		
1225	7:00	7:00	0	Bolivar	18	9	100	7:00	
2:34	9:50	7:16	3	Little Genesee	25	8:52	12:50	8:52	
2:40	10:00	7:16	5	Bowler	33	8:44	13:15	8:44	
2:45	10:30	7:20	6 1/2	Ceres	41	8:35	13:45	8:40	
2:50	10:55	7:25	10	Maine	8	8:35	13:18	8:38	
2:52	10:55	7:27	11	White House	7	8:33	13:14	8:35	
2:58	10:55	7:32	12	Portville	6	8:30	13:10	8:30	
3:05	10:55	7:40	15	Gordon's	4	8:27	13:05	8:27	
3:10	11:10	7:45	18	Riverbush	2	8:20	12:55	8:20	
3:12	11:10	7:47	19	Weston's	1	8:15	12:50	8:15	
3:15	11:10	7:50	20	Olson's	0	8:10	12:45	8:10	
3:18	11:10	7:52	21	Bradford	0	8:05	12:40	8:05	
3:20	11:10	7:54	22	Buffalo	0	8:00	12:35	8:00	
3:22	11:10	7:56	23	Rocheester	0	7:55	12:30	7:55	
3:25	11:10	7:58	24	Rocheester	0	7:50	12:25	7:50	
3:28	11:10	8:00	25	Rocheester	0	7:45	12:20	7:45	
3:30	11:10	8:02	26	Rocheester	0	7:40	12:15	7:40	
3:32	11:10	8:04	27	Rocheester	0	7:35	12:10	7:35	
3:35	11:10	8:06	28	Rocheester	0	7:30	12:05	7:30	
3:38	11:10	8:08	29	Rocheester	0	7:25	12:00	7:25	
3:40	11:10	8:10	30	Rocheester	0	7:20	11:55	7:20	
3:42	11:10	8:12	31	Rocheester	0	7:15	11:50	7:15	
3:45	11:10	8:14	32	Rocheester	0	7:10	11:45	7:10	
3:48	11:10	8:16	33	Rocheester	0	7:05	11:40	7:05	
3:50	11:10	8:18	34	Rocheester	0	7:00	11:35	7:00	
3:52	11:10	8:20	35	Rocheester	0	6:55	11:30	6:55	
3:55	11:10	8:22	36	Rocheester	0	6:50	11:25	6:50	
3:58	11:10	8:24	37	Rocheester	0	6:45	11:20	6:45	
4:00	11:10	8:26	38	Rocheester	0	6:40	11:15	6:40	
4:02	11:10	8:28	39	Rocheester	0	6:35	11:10	6:35	
4:05	11:10	8:30	40	Rocheester	0	6:30	11:05	6:30	
4:08	11:10	8:32	41	Rocheester	0	6:25	11:00	6:25	
4:10	11:10	8:34	42	Rocheester	0	6:20	10:55	6:20	
4:12	11:10	8:36	43	Rocheester	0	6:15	10:50	6:15	
4:15	11:10	8:38	44	Rocheester	0	6:10	10:45	6:10	
4:18	11:10	8:40	45	Rocheester	0	6:05	10:40	6:05	
4:20	11:10	8:42	46	Rocheester	0	6:00	10:35	6:00	
4:22	11:10	8:44	47	Rocheester	0	5:55	10:30	5:55	
4:25	11:10	8:46	48	Rocheester	0	5:50	10:25	5:50	
4:28	11:10	8:48	49	Rocheester	0	5:45	10:20	5:45	
4:30	11:10	8:50	50	Rocheester	0	5:40	10:15	5:40	
4:32	11:10	8:52	51	Rocheester	0	5:35	10:10	5:35	
4:35	11:10	8:54	52	Rocheester	0	5:30	10:05	5:30	
4:38	11:10	8:56	53	Rocheester	0	5:25	10:00	5:25	
4:40	11:10	8:58	54	Rocheester	0	5:20	9:55	5:20	
4:42	11:10	9:00	55	Rocheester	0	5:15	9:50	5:15	
4:45	11:10	9:02	56	Rocheester	0	5:10	9:45	5:10	
4:48	11:10	9:04	57	Rocheester	0	5:05	9:40	5:05	
4:50	11:10	9:06	58	Rocheester	0	5:00	9:35	5:00	
4:52	11:10	9:08	59	Rocheester	0	4:55	9:30	4:55	
4:55	11:10	9:10	60	Rocheester	0	4:50	9:25	4:50	
4:58	11:10	9:12	61	Rocheester	0	4:45	9:20	4:45	
5:00	11:10	9:14	62	Rocheester	0	4:40	9:15	4:40	
5:02	11:10	9:16	63	Rocheester	0	4:35	9:10	4:35	
5:05	11:10	9:18	64	Rocheester	0	4:30	9:05	4:30	
5:08	11:10	9:20	65	Rocheester	0	4:25	9:00	4:25	
5:10	11:10	9:22	66	Rocheester	0	4:20	8:55	4:20	
5:12	11:10	9:24	67	Rocheester	0	4:15	8:50	4:15	
5:15	11:10	9:26	68	Rocheester	0	4:10	8:45	4:10	
5:18	11:10	9:28	69	Rocheester	0	4:05	8:40	4:05	
5:20	11:10	9:30	70	Rocheester	0	4:00	8:35	4:00	
5:22	11:10	9:32	71	Rocheester	0	3:55	8:30	3:55	
5:25	11:10	9:34	72	Rocheester	0	3:50	8:25	3:50	
5:28	11:10	9:36	73	Rocheester	0	3:45	8:20	3:45	
5:30	11:10	9:38	74	Rocheester	0	3:40	8:15	3:40	
5:32	11:10	9:40	75	Rocheester	0	3:35	8:10	3:35	
5:35	11:10	9:42	76	Rocheester	0	3:30	8:05	3:30	
5:38	11:10	9:44	77	Rocheester	0	3:25	8:00	3:25	
5:40	11:10	9:46	78	Rocheester	0	3:20	7:55	3:20	
5:42	11:10	9:48	79	Rocheester	0	3:15	7:50	3:15	
5:45	11:10	9:50	80	Rocheester	0	3:10	7:45	3:10	
5:48	11:10	9:52	81	Rocheester	0	3:05	7:40	3:05	
5:50	11:10	9:54	82	Rocheester	0	3:00	7:35	3:00	
5:52	11:10	9:56	83	Rocheester	0	2:55	7:30	2:55	
5:55	11:10	9:58	84	Rocheester	0	2:50	7:25	2:50	
5:58	11:10	10:00	85	Rocheester	0	2:45	7:20	2:45	
6:00	11:10	10:02	86	Rocheester	0	2:40	7:15	2:40	
6:02	11:10	10:04	87	Rocheester	0	2:35	7:10	2:35	
6:05	11:10	10:06	88	Rocheester	0	2:30	7:05	2:30	
6:08	11:10	10:08	89	Rocheester	0	2:25	7:00	2:25	
6:10	11:10	10:10	90	Rocheester	0	2:20	6:55	2:20	
6:12	11:10	10:12	91	Rocheester	0	2:15	6:50	2:15	
6:15	11:10	10:14	92	Rocheester	0	2:10	6:45	2:10	
6:18	11:10	10:16	93	Rocheester	0	2:05	6:40	2:05	
6:20	11:10	10:18	94	Rocheester	0	2:00	6:35	2:00	
6:22	11:10	10:20	95	Rocheester	0	1:55	6:30	1:55	
6:25	11:10	10:22	96	Rocheester	0	1:50	6:25	1:50	
6:28	11:10	10:24	97	Rocheester	0	1:45	6:20	1:45	
6:30	11:10	10:26	98	Rocheester	0	1:40	6:15	1:40	
6:32	11:10	10:28	99	Rocheester	0	1:35	6:10	1:35	
6:35	11:10	10:30	100	Rocheester	0	1:30	6:05	1:30	
6:38	11:10	10:32	101	Rocheester	0	1:25	6:00	1:25	
6:40	11:10	10:34	102	Rocheester	0	1:20	5:55	1:20	
6:42	11:10	10:36	103	Rocheester	0	1:15	5:50	1:15	
6:45	11:10	10:38	104	Rocheester	0	1:10	5:45	1:10	
6:48	11:10	10:40	105	Rocheester	0	1:05	5:40	1:05	
6:50	11:10	10:42	106	Rocheester	0	1:00	5:35	1:00	
6:52	11:10	10:44	107	Rocheester	0	9:55	5:30	9:55	
6:55	11:10	10:46	108	Rocheester	0	9:50	5:25	9:50	
6:58	11:10	10:48	109	Rocheester	0	9:45	5:20	9:45	
7:00	11:10	10:50	110	Rocheester	0	9:40	5:15	9:40	
7:02	11:10	10:52	111	Rocheester	0	9:35	5:10	9:35	
7:05	11:10	10:54	112	Rocheester	0	9:30	5:05	9:30	
7:08	11:10	10:56	113	Rocheester	0	9:25	5:00	9:25	
7:10	11:10	10:58	114	Rocheester	0	9:20	4:55	9:20	
7:12	11:10	11:00	115	Rocheester	0	9:15	4:50	9:15	
7:15	11:10	11:02	116	Rocheester	0	9:10	4:45	9:10	
7:18	11:10	11:04	117	Rocheester	0	9:05	4:40	9:05	
7:20	11:10	11:06	118	Rocheester	0	9:00	4:35	9:00	
7:22	11:10	11:08	119	Rocheester	0	8:55	4:30	8:55	
7:25	11:10	11:10	120	Rocheester	0	8:50	4:25	8:50	
7:28	11:10	11:12	121	Rocheester	0	8:45	4:20	8:45	
7:30	11:10	11:14	122	Rocheester	0	8:40	4:15	8:40	
7:32	11:10	11:16	123	Rocheester	0	8:35	4:10	8:35	
7:35	11:10	11:18	124	Rocheester	0	8:30	4:05	8:30	
7:38	11:10	11:20	125	Rocheester	0	8:25	4:00	8:25	
7:40	11:10	11:22	126	Rocheester	0	8:20	3:55	8:20	
7:42	11:10	11:24	127	Rocheester	0	8:15	3:50	8:15	
7:45	11:10	11:26	128	Rocheester	0	8:10	3:45	8:10	
7:48	11:10	11:28	129	Rocheester	0	8:05	3:40	8:05	
7:50	11:10	11:30	130	Rocheester	0	8:00	3:35	8:00	
7:52	11:10	11:32	131	Rocheester	0	7:55	3:30	7:55	
7:55	11:10	11:34	132	Rocheester	0	7:50	3:25	7:50	
7:58	11:10	11:36	133	Rocheester	0	7:45	3:20	7:45	
8:00	11:10	11:38	134	Rocheester	0	7:40	3:15	7:40	
8:02	11:10	11:40	135	Rocheester	0	7:35	3:10	7:35	
8:05	11:10	11:42	136	Rocheester	0	7:30	3:05	7:30	
8:08	11:10	11:44	137	Rocheester	0	7:25	3:00	7:25	
8:10	11:10	11:46	138	Rocheester	0	7:20	2:55	7:20	
8:12	11:10	11:48	139	Rocheester	0	7:15	2:50	7:15	
8:15	11:10	11:50	140	Rocheester	0	7:10	2:45	7:10	
8:18	11:10	11:52	141	Rocheester	0	7:05	2:40	7:05	
8:20	11:10	11:54	142	Rocheester	0	7:00	2:35	7:00	
8:22	11:10	11:56	143	Rocheester	0	6:55	2:30	6:55	
8:25	11:10	11:58	144	Rocheester	0	6:50	2:25	6:50	
8:28	11:10	12:00	145	Rocheester	0	6:45	2:20	6:45	
8:30	11:10	12:02	146	Rocheester	0	6:40	2:15	6:40	
8:32	11:10	12:04	147	Rocheester	0	6:35	2:10	6:35	
8:35	11:10	12:06	148	Rocheester	0	6:30	2:05	6:30	
8:38	11:10	12:08	149	Rocheester	0	6:25	2:00	6:25	
8:40	11:10	12:10	150	Rocheester	0	6:20	1:55	6:20	
8:42	11:10	12:12	151	Rocheester	0	6:15	1:50	6:15	
8:45	11:10	12:14	152	Rocheester	0	6:10	1:45	6:10	
8:48	11:10	12:16	153	Rocheester</					

months these two found they could not make the road a paying proposition, and, on Apr. 19, 1946, they sought permission to abandon the railroad line and stop operations. None of the connecting roads (B. & O., P. R. R., D. L. & W. or Erie) evinced a desire to purchase the P. S. & N., in whole or in part. After many hearings for interested parties, the Interstate Commerce Commission, on Jan. 6, 1947, authorized the P. S. & N. to abandon its entire line.

The bankruptcy was ended on Mar. 4, 1947, when the P. S. & N. and various properties owned by it were sold to Harry W. Findlay, a coal operator, of Carnegie, Pa. for \$1,050,000. The mining properties near St. Marys were sold to the New Shawmut Mining Co., and segments of the railroad to the Pennsy and to the Erie. The remainder was scrapped. The salvage operations were conducted by the Shawmut Railway Supply Co.

Wellsville Daily Reporter, Feb. 3, 1949.

"Receivers for the defunct Pittsburg, Shawmut and Northern Railroad, Tuesday, at Pittsburgh, mailed checks totalling \$600,000 to persons throughout the United States and Europe. The receivers, Robert C. Sproul and Thomas C. Buchanan, said the checks represented a first distribution of 25% of the liquidated assets of the railroad. The company went into bankruptcy twenty-four years ago. It abandoned operations more than a year ago."

St. Marys Daily Press, Dec. 1947.

"Shawmut Receiver Fees Approved. Pittsburgh, Dec. 27. (AP) Receivers and trustees of the Pittsburg, Shawmut & Northern Railroad Co., and their legal counsel have been awarded compensation totaling \$194,750.

"Judge Guy Bard, Federal district court judge at Philadelphia, in an order filed in Federal court here yesterday stipulated that 60 per cent of the award be paid immediately with the remaining payments to await further order of the court.

"The awards: Thomas C. Buchanan, \$52,670, and Robert C. Sproul, Jr., \$42,670 for their services as receivers, and \$7,330 each as trustees; Attorneys Bernard Goodman and John T. Duff, Jr. \$45,000 and \$35,000, respectively; Attorneys Adrian Block and Isador Setal, Buffalo, N. Y., \$3,000 and \$1,750, respectively for services in New York State.

"Buchanan and Sproul were named receivers of the railroad, the Shawmut Mining Co., and the Kersey Mining Co., on Nov. 1945. At that time receivership proceedings had been pending 40 years. Last March most of the assets of the railroad and all assets of the Shawmut Mining Co. and its subsidiaries were sold for \$1,505,000."

Last Days of the Shawmut

The Pittsburg, Shawmut and Northern Railroad Co. controlled, through ownership of its entire capital stock, the Shawmut Mining Co., owner of more than 14,000 acres of coal lands, having resources of 40,000,000 to 50,000,000 tons, with several mines located within a radius of 20 miles from St. Marys. The mining company was not a success in recent years, and the railroad had advanced it about \$500,000 over

the period 1939-1946. The advances were made to keep the mines in operation, and to enable the railroad to retain the traffic. This coal hauling was the railroad's principal source of revenue.

The events that precipitated the action resulting in the abandonment of the railroad appear to have started with a strike of the coal miners on July 16, 1945. The coal company physician, a young lady by the name of Betty Hayes, called attention to the unfavorable living and sanitary conditions of the miners and their families. When Dr. Hayes was dismissed, the miners went on strike. The setup was made to order for the newspapers, and many reports and editorials appeared during the succeeding months. The amazing, long bankruptcy of the railroad was brought to the attention of the public. The company contended—and this was borne out by the facts—that it was in no financial position to make any large scale improvements in the three towns involved.

Attorneys for the holders of some of the Receiver's Certificates brought a petition calling for the removal of the receiver, John D. Dickson, a reorganization of the company, and the appointment of a new receiver; if these changes could not be made, then they asked that the assets be liquidated. The miners addressed a petition to United States Attorney General Clark, asking that an investigation of the long receivership be made. Federal Judge Guy K. Bard was appointed by Mr. Clark to look over the situation.

Arrangements were at once discussed for resuming work in the mines, which had been idle for four and a half months, and the operation of which was essential for the railroad's existence. Meanwhile, reorganization proceedings were begun; Mr. Dickson was replaced by the two new receivers, Buchanan and Sproul, who were soon appointed trustees. On May 22, all operations in the state of New York, north of Bolivar, were discontinued, and during June operations of the southern end were partially suspended. On June 1st, the receivers could not meet their payroll; the money for this and subsequent operation until abandonment were met by the inauguration of an arrangement whereby all freight charges were prepaid. Finally, at the year's end, the abandonment was authorized by the Interstate Commerce Commission.

When Mr. Findley bought the road at the March 4, 1947 auction, as a condition of sale, he agreed to have operated small segments of the line serving points in Olean, St. Marys and Farmers Valley. These segments were eventually sold to the Pennsylvania R. R., as has been mentioned previously. The remainder was sold by Mr. Findley for salvage, which was carried on by the Shawmut Railway Supply Co., at the rate of 3 miles per day. It will be recalled that the northern end of the Shawmut, the leased Rochester, Hornellsville and Lackawanna, was owned by the American Red Cross. The Interstate Commerce Commission ordered the Erie to provide services to certain industries in No. Hornell, operating, in part, over segments of this road. The Erie purchased these segments on May 20, 1947.

The last train was run on April 1, 1947; it was made up of all the rolling stock which was being taken to St. Marys. The railroad was dismantled, rails taken up, and salvageable material collected by

two work trains; the one on the northern end with engine No. 71 worked out of Olean, while No. 72, with its train on the southern end, had its headquarters in St. Marys. At the time of the sale, the rolling stock comprised 16 locomotives, 8 cabooses, and 39 units of work equipment. The engines were sold to the S. P. N. Realty Holding Corporation, and cut up for scrap at the Lackawanna, N. Y., plant of the Bethlehem Steel Co. The stations were sold for storage of lumber, grain and the like, the smaller ones becoming garages. The land was sold, in smallish parcels by Mr. Lathrop; some sections were leveled and added to existing fields, thus being restored to its original condition.

The demise of the Shawmut is neatly summarized in the following editorial from the St. Marys *Daily Press*, of July 9, 1947:

"The Trail's End

"Departure of five Shawmut engines for Buffalo yesterday as described in a news article in today's paper, just about winds up the locomotive rolling stock on this abandoned line, leaving but two still in service at the north and south ends picking up rails.

"Eight locomotives had been sent to Buffalo a few weeks ago.

"When the last two engines make that trip a once flourishing St. Marys industry will have sung its swan song.

"Time was when the Shawmut Railroad Company was St. Marys' largest employer.

"That was when the shops on Depot Street were beehives of activity and the Shawmut maintained passenger train service between here and Olean and points on the south end. In those days the Shawmut ran special trains to the Elk County Fair, another institution that has passed from the picture.

"The fight to save the Shawmut from being turned into a scrap pile had its climax in a Pittsburgh court room last March when bids to buy the road for scrapping purposes went beyond a figure set by Harry S. Findley, who had proposed operating the road on an experimental basis had he been able to purchase it at his first offer.

"That saw the end of a long battle to keep the Shawmut as a going concern, the fight was lost and the railroad today is being transformed into salvage scrap.

"Dr. Elizabeth (Betty) Hayes, the Valley physician, whose protest against unsanitary living conditions in coal mining towns, touched off the fuse that led to a federal investigation of the railroad's long bankruptcy regime, has also left this part of the country.

"The 'folding up' of the road did not affect the mining operations as a newly organized company took over those properties and under the firm name of the Shawmut Mining Company maintains office headquarters here.

"And so another epoch in the history of rail transportation draws to a close."

Klipnockie

The Klipnockie Railroad Co. was chartered on December 6, 1899 with a capital stock of \$100,000, to build a road from Birdsall to the

Klipnockie Quarry, in the township of Almond, a distance of 7 miles. This quarry contained a valuable building stone; the window-sills in the Frank Sullivan State Memorial Library in Angelica are pieces of this stone. There was never any construction. The officers and directors were as follows: President, Frank S. Smith; V. P. Frank S. Blair; Sec'y, Dawson D. Dickson; Treas'r, H. S. Hastings, all of Angelica. Directors, Simeon M. Ayers, of Jersey City, (1903), Ferdinand J. Flicker, of New York, Guy Wellman, of Friendship, (1904), C. D. Buchanan, J. Hoyt Corbin, and Everett L. Weaver, all of Angelica.

A railroad to the Clipnockie quarries was first talked of in 1883, as shown by this excerpt from the Allegany County *Republican*, copied from the Canaseraga *Times*. "To those of our readers who are familiar with the extent and location of the quarries about five miles south of Canaseraga, and known as the Clipnockie quarries, it will occasion no great degree of surprise to learn that a railroad is to be built to the spot to afford facilities for their development. The stone . . . has long been known to be of a superior quality for all railroad and other building purposes . . . it is estimated that the quarry contains at least 300,000 cubic yards of stone . . . The contract calls for the building of the road, either from the New York, Lake Erie and Western R. R., or from the line of the Lackawanna & Pittsburgh, and for its completion ready for trains by September 1st, 1883. As the stone will be needed for the construction of the Lackawanna & Pittsburgh, of course the line will be pushed forward with all possible dispatch. . . . If it does not pass through this place, (i.e. Canaseraga) it will take a course through Birdsall and join the Lackawanna & Pittsburgh or Allegany Central in Birdsall or Grove." In the June 15th issue it is noted that surveyors have run a line through Birdsall.

Kersey

The Kersey Railroad Co. was organized on Oct. 13, 1900, by Shawmut interests, with a capital stock of \$150,000, to tap the coal mining Weedville-Tyler district. The Pittsburg, Shawmut and Northern owned the entire capital stock and operated the road throughout its history by lease; the lessee received the entire earnings from the operation, and bore the expenses of organization, maintenance, operation, and taxes. It is not clear why this road was organized, instead of just building a branch of the Shawmut. The officers and directors had all held similar positions on the predecessors of the Pittsburg, Shawmut and Northern. There may have been sort of an agreement, because the latter organization took over in 1904, and installed their own officers.

President, J. K. P. Hall; V. P. & G. M., Andrew Kaul, both of St. Marys; Sec'y-Treas'r, G. C. Simons; Directors, B. F. Darr, John Kaul, J. M. Schaefer and J. B. Robertson. A. G. McComb, of the Shawmut, was Chief Engineer.

The road was opened on May 1, 1901. The first year's construction consisted of the 9.56 miles between Paine and Weedville; it was extended to Cardiff the following year, making a total of 12.08 miles. In 1907, the 1.54-mile Browns Run branch was constructed to 42-mine.

There was a complete change of officers and directors in 1904, all being Shawmut men.

The Kersey Railroad was always listed separately in the various manuals, with various shifts and new faces among the directors. In 1907-8, occur several names, familiar because of their association with the Pittsburg & Shawmut: L. G. Bonstein, G. C. Deeter, F. A. Robinson.

No attempt has been made to include the subsequent changes and operations.

At the time of the abandonment in 1947, the Interstate Commerce Commission authorized the parent B. & N. to abandon its operations over the Kersey, and the latter to abandon its entire line, from Paine to Cardiff, and branches from Force to Tyler and Weedville to Brown's Run.

Pittsburg & Shawmut

Brookville and Mahoning R. R. Co.

The Brookville and Mahoning R. R. Co. was organized by the Pittsburg, Shawmut and Northern R. R. Co. on July 21, 1903, with a capital stock of \$1,750,000, to reach the coal fields to the south in Jefferson County, and with the ultimate aim of tapping the Pittsburg area.

President, Edwin E. Tait, of Bradford, Pa.; Sec'y-Treas'r, H. S. Hastings, and Directors, L. G. Bonstein, M. Donaldson, A. C. Griffith, George S. Ramsey, all of St. Marys, and Nathan L. Strong, of Brookville.

Strong, a Brookville attorney, bought a large part of the coal lands owned by the Allegheny River Mining Co.

The first construction, completed and opened, was 6.4 mi. from Brookville to Ramsaytown; this segment was isolated from the rest of the Shawmut system until the completion of the link to Erie Jet., in 1908. The cost of this first portion was set at \$1,565,882.65. In the 1908 Poor's it is noted that the Brookville and Mahoning is being privately financed by a stock issue for cash. During this year an extension to Conifer was completed, increasing the mileage to 32.71, and the capital stock was increased to \$2,000,000, while Grant C. Deeter joined the board of directors. Additional construction brought the mileage to 35.74 in 1909, the lines were Erie Jet. to Colon, Colon to Ramsaytown, and Colon to Knoxdale.

On Aug. 28, 1909, the name was changed to the Pittsburg and Shawmut R. R. Co. The reason given was a desire to avoid confusion with the Boston and Maine's initials. The similarity between Pittsburg and Shawmut, and Pittsburg, Shawmut and Northern seems to have been overlooked! On Jan. 3, 1910, the name was changed to The Pittsburg & Shawmut Railroad Co.

The list of officers and directors now became more extensive, with a New York group appearing on the board.

Genl. Thomas Hamlin Hubbard, Chairman of the Board, was the head of Thos. H. Hubbard & Co., of New York City. The General, one of Maine's illustrious sons, was born in Hallowell on December 20,

1838. He was graduated from Bowdoin College in 1857 (A.M., '60; LL.D., '94), read for law and was admitted to the Maine bar in 1860 and the New York bar in 1861. He took an active part as an officer in the Civil War, and at its close was breveted a brigadier general for meritorious services. He was a justice of the United States Supreme Court in 1870. He was a member of the New York firm of Butler, Stillman and Hubbard from 1875-1896, becoming actively interested in railroads, an interest which he retained until his death on May 19, 1915.

Near the turn of the century he joined the Pacific Improvement Co., being president from 1903 until his death. This company was incorporated under the laws of California in 1878, with a capital stock of \$5,000,000, and had offices in San Francisco, and at 60 Wall St., New York. In Jan., 1912, it was reported as being in the process of liquidation. It owned a considerable amount in bonds of the Central New York and Western, the immediate predecessor of the Shawmut, and so obtained some degree of control over the latter.

He also formed Thos. H. Hubbard & Co., of New York, which owned the building at 60 Wall St., which then had 26 stories. Mr. Hubbard's office was on the top floor, while the Pittsburg, Shawmut and Northern (who then controlled the Pittsburg and Shawmut) was on the 20th floor. Hubbard & Co. advanced funds to the Interior and Construction Co. (see Bulletin No. 64, p. 35) which built much of the Shawmut. This company was unable to repay the advances, which were eventually cancelled through forfeit to T. H. Hubbard & Co. of \$9,430,000 par value of capital stock, and \$7,375,000 par value of bonds, which securities had been pledged for advances by the railroad.

By virtue of these two companies the General had a considerable degree of control of the Pittsburg, Shawmut and Northern, and of the Pittsburg & Shawmut through lease to the former; Hubbard & Co. supplied much of the funds for construction of the latter road. The general had planned to build a continuous railroad from the Pittsburgh district to Lake Ontario, thus competing with the Buffalo, Rochester & Pittsburg and Northern Central (P. R. R.) This chance of ending the Shawmut's receivership went with his death, for the controlling interests of the Pittsburg & Shawmut then diverted their large coal tonnage to the Erie.

General Hubbard was second vice-president and director of the Southern Pacific Co. (1896-1900), and president of the following subsidiaries: Houston and Texas Central R. R., 1894-1901; Mexican International R. R. 1897-1901; Austin and Northwestern R. R., Central Texas and Northwestern Ry., Fort Worth and New Orleans R. R. He was president of the Guatemala Central R. R., 1901-1912. He reorganized and became a director of the Wabash in 1889 or 1890, and later was vice-president and director of the Toledo, St. Louis and Western; when this road took over control of the Chicago and Alton (1907-1912) he became one of its directors and chairman of the board. He was a director (1909) and chairman of the board (1910 until his death) of the Pittsburg & Shawmut. He was also a director of several banks and

of the Metropolitan Life Insurance Co. He was a trustee of Bowdoin College. He was greatly interested in the Arctic explorations of Capt. Robert E. Peary, being one of the financial backers of the last trip when Peary reached the North Pole. A cape Thos. H. Hubbard may be found on maps of the Arctic region.

In 1910-1911 the Pittsburg & Shawmut purchased the entire capital stock of the Allegheny River Mining Co., and, about the same time, bonds of the Pittsburg, Shawmut and Northern to the amount of \$12,100,000.

The Pittsburg, Shawmut and Northern had always operated the Brookville and Mahoning under lease, and operated the Pittsburg & Shawmut under lease, until this was abrogated on Aug. 31, 1916. As lessor, the P. S. & N. maintained and operated the road, and paid as rental the actual net earnings plus 10c per ton on all coal delivered to them by the P. & S. On Dec. 8, 1915, a committee consisting of Frank H. Davis, Samuel Fuller, John Hubbard, Walter R. Leigh, Charles Sargent, and Theodore P. Shonts was formed, to consider a consolidation of the Pittsburg & Shawmut, and Pittsburg, Shawmut and Northern, taking the latter out of receivership and placing both on a sound financial footing. The committee engaged W. H. Coverdale of New York as engineer to determine on what basis they should undertake the reorganization, and whether or not the two roads should be consolidated. Without awaiting committee action, the Pittsburg & Shawmut claimed the right to divert traffic from the P. S. & N., but were temporarily delayed when Frank Sullivan Smith got a restraining injunction.

The new road reached Kittanning in 1913, but was not completed to the southern terminus at Freeport until 1918. The *Daily Times* (of Kittanning, Pa.) for Aug. 21, 1913, recorded that "the first passenger train, consisting of a construction engine (of the Corbett Construction Co.) and five Buffalo, Rochester & Pittsburgh coaches, arrived here from Mosgrove this morning. Each car was packed to the doors. The train left Dubois at 6:30 A. M., arrived at Mosgrove at 8:26, and here, on schedule, at 9:30. The official celebration will be early in October."

By 1917, the road had been finished as far as Cadogan, and was opened to its southern terminus, Freeport Jct., 31 miles north of Pittsburgh, the next year.* The total mileage, not including 57.06 mi. of yards and sidings (1921-5), was 102.96 mi. There are five tunnels. The principal structure is the 1123-ft. bridge over the Allegheny River and P. R. R. at Mahoning. There are large steel trestles or viaducts at Brookville (also over the P. R. R.) Sugar Camp, Mill Creek, and Sprankel Mills. Entrance to Pittsburgh is gained by trackage rights over the Pennsylvania R. R. At one time an extension to the Bessemer and Lake Erie was considered, but this was never realized. The road is laid with 85-lb. rail. The office is at Kittanning and the shops are at Brookville.

* It is 88.01 mi. between Erie Jct. and Freeport.

Rail connections of the Pittsburg & Shawmut were as follows: With the Pittsburg, Shawmut and Northern and Erie at Erie Jct.; with the Pennsylvania at Brookville and at Freeport; with the B. & O. at Dellwood and at West Mosgrove. Passengers could transfer to the B. R. & P. at West Mosgrove Bridgeburg; since the tracks are at greatly different levels, passengers had to climb a long flight of steps to get to the B. R. & P. (now B. & O.)

The Pittsburg and Shawmut appear to have used B. R. & P. rolling stock for some time, as can be seen in the picture showing an early train at Kittanning. The P. & S. passenger engines were 4-4-2 (Atlantics), Nos. 104-105, and not purchased until 1920. Under P. S. & N. control the 2-6-0 engines, Nos. 15-17, were used in passenger service.

In 1924, the Pittsburg & Shawmut had 25 locomotives and 2398 cars, of which 2343 were coal cars; they listed 16 cabooses in 1937, while the number of engines had decreased to 17 in 1941. They bought eight 2-8-2s from the Monon (Chicago, Indianapolis & Louisville) in 1947.

After the death of Genl. Hubbard and the abrogation of the lease of the P. & S. to the P. S. & N., in 1916, Edward F. Searles became a director and chairman of the board.

In the tentative consolidation plan, the two Shawmut roads (P. & S. and P. S. & N.) were placed in Group 4 (Erie), with a note they might also be included in Group 7a (New England-Great Lakes).

The P. & S. has been an independent road ever since 1916. It belongs to the Class I group of railroads; in 1949 its business amounted to \$2,212,122. The average train mileage was 97. It has paid no dividends to date. After the government took over the roads during World War I, the adjusted compensation received by the Pittsburg & Shawmut was \$563,622.

Notes on P. & S. Locomotives

Only three types of engines were bought by this road. The two Atlantics have already been mentioned. There were four consolidations (Class H) but the standard was the Mikado, 2-8-2, type (Class J).

When first delivered the H series (226-229) were lettered A. R. M. Co., on the tender. They were immediately sent to the Toledo, St. Louis and Western (Clover Leaf Route), according to Jerry Wells; he does not recall how long they were there (nor does the Nickel Plate, lessors of this road, have a record) but they were still lettered A. R. M. Co. on their return. The Clover Leaf was considering the purchase of heavier power for their heavy drag freights in a hilly district on which they had been using 2-6-0s. The results of the trial were favorable and led to the road's acquisition of consolidations. The connection between the Pittsburg & Shawmut and the Clover Leaf seems very remote; it was cleared up by checking on the activities of Thos. H. Hubbard & Co.

When the Pittsburg, Shawmut and Northern controlled the Pittsburg & Shawmut, the engines were used indiscriminately. There was

much trouble from derailments on the P. S. & N. tracks due to the longer wheel base of the P. & S. 2-8-2's.

In the scrap paper obtained from the Angelica junkman there were many boiler inspection reports, including some of the Pittsburg & Shawmut, which at that time, was operated by the Pittsburg, Shawmut and Northern. They were in rather poor condition and incomplete. By careful search considerable data regarding the ownership and leasing of the first five engines on the roster were found. Perhaps the most valuable discovery was the confirmation of the rumor that the first two engines, Nos. 200 and 201 were owned by the Allegheny River Mining Co., and lettered A. R. M. Co. Both of these (as noted on the reverse of the reports) were built at the Baldwin Locomotive Works in August, 1911, and stored at Eddystone until December, when they were brought to St. Marys, set up and tested, and again stored, this time at Angelica, from Jan. 12 (and 13) until Feb. 13 (and 14), 1912.

Eng. No.	Lessor	Date	Dates
200	Baldwin Locomotive Works Guardian Trust Co.	10-12-13	ARMCo 12-7-11 2-20-12
201	Baldwin Locomotive Works Guardian Trust Co.	12-21-12 12-1-15	12-7-11 2-20-12 6-14-16
			P&S
202	Baldwin Locomotive Works	9-25-13 3-27-15	9-12-13
203	Baldwin Locomotive Works	12-12-13	9-12-13
204	Baldwin Locomotive Works	12-13-13 6-11-14	9-16-13

Locomotives of the Pittsburg & Shawmut R. R.

No.	Builder	C/N	Date	Type	Cyls.	DD	BP	Class	Disp'n	Note
104	Schenect	61954	1920	4-4-2	19x26	69	200	E-1-S	Sc. 11-1938	
105	Schenect	61955	1920	4-4-2	19x26	69	200	E-1-S	Sc. 11-1938	
200	Baldwin	36821	1911	2-8-2	22x28	51	200	J	Sc. 8-1950	A-B
201	Baldwin	36822	1911	2-8-2	22x28	51	200	J	Sc. 11-1938	A-B-C
202	Baldwin	40589	1913	2-8-2	22x28	51	200	J	Sc. 10-1951	C
203	Baldwin	40590	1913	2-8-2	22x28	51	200	J	Sc. 12-1948	C
204	Baldwin	40591	1913	2-8-2	22x28	51	200	J	Sc. 3-1952	C
205	Baldwin	40592	1913	2-8-2	22x28	51	200	J	Sc. 11-1938	
206	Baldwin	40612	1913	2-8-2	22x28	51	200	J	Sc. 8-1952	
207	Baldwin	40613	1913	2-8-2	22x28	51	200	J	Sc. 3-1949	
208	Baldwin	40614	1913	2-8-2	22x28	51	200	J	Sc. 8-1952	
209	Baldwin	40615	1913	2-8-2	22x28	51	200	J	Sc. 3-1950	
210	Baldwin	40616	1914	2-8-2	22x28	51	200	J	Sc. 6-1949	
211	Baldwin	40617	1914	2-8-2	22x28	51	200	J	Sc. 11-1938	
212	Baldwin	41563	1914	2-8-2	22x28	51	200	J-1	Sc. 9-1953	
213	Baldwin	41564	1914	2-8-2	22x28	51	200	J-1	Sc. 9-1953	
214	Baldwin	41565	1914	2-8-2	22x28	51	200	J-1	Sc. 12-1953	
215	Baldwin	41566	1914	2-8-2	22x28	51	200	J-1	Sc. 12-1953	
216	Baldwin	41567	1914	2-8-2	22x28	51	200	J-1	Sc. 9-1953	
217	Baldwin	41568	1914	2-8-2	22x28	51	200	J-1	Sc. 12-1953	
226	Baldwin	36817	1911	2-8-0	22x28	51	200	H	So. PS&N, #76	A

227	Baldwin	36818	1911	2-8-0	22x28	51	200	H	Sc. 11-1942	A
228	Baldwin	36819	1911	2-8-0	22x28	51	200	H	Sc. 12-1940	A
229	Baldwin	36820	1911	2-8-0	22x28	51	200	H	Sc. 11-1938	A-B
570	Schenect	68051	1929	2-8-2	27x32	63	220	J-4	ex-Monon 570	Sc. 9-1953
571	Schenect	68042	1929	2-8-2	27x32	63	220	J-4	ex-Monon 571	Sc. 9-1953
572	Schenect	68043	1929	2-8-2	27x32	63	220	J-4	ex-Monon 572	Sc. 12-1953
573	Schenect	68044	1929	2-8-2	27x32	63	220	J-4	ex-Monon 573	Sc. 12-1953
574	Schenect	68045	1929	2-8-2	27x32	63	220	J-4	ex-Monon 574	Sc. 11-1953
575	Schenect	68046	1929	2-8-2	27x32	63	220	J-4	ex-Monon 575	Sc. 12-1953
577	Schenect	68048	1929	2-8-2	27x32	63	220	J-4	ex-Monon 577	Sc. 12-1953
579	Schenect	68050	1929	2-8-2	27x32	63	220	J-4	ex-Monon 579	Sc. 12-1953

Note A. Owned by the Allegheny River Mining Co., and lettered A.R.M.Co. until 1916.

Note B. Leased from the Guardian Trust Co.

Note C. Leased from Baldwin Locomotive Works.

Our Rooms in the Baker Library

For the information of our members, there have been made some changes in the matter of the personnel of our Room Committee. Two of our members, C. Porter Atherton and Loring F. Wilcox have volunteered their services on this committee and the results of their efforts have already made a showing. On July 1st, Mr. John W. Merrill, who has been Curator since 1934, was appointed Curator Emeritus by the Executive Committee, subject to the action of our Directors at their next meeting. Jason A. Swadkins, who has been faithful in his work and in his attendance was unable to continue his duties most of the summer due to the heat but at this writing (July), we hope he can continue with the coming of cooler weather. There is still room for others on this committee and any of our members in the immediate vicinity, who have a little spare time and who wish to help out, the offer of their services will not be refused. We have two attractive rooms, we have some interesting material on display and we have material in our files. We are glad to show it and we want to help those that come to our rooms for information. If you want to help, no matter in what capacity, just let us know.

Jason Swadkins was laid to rest on November 15th. "For so long as one remains in our hearts, they will never be forgotten."

The Lincoln Inaugural and Funeral Trains

BY G. MURRAY CAMPBELL

With the passing of time it appears that each successive President of the United States rolls up greater travel mileage than any of his predecessors. The enormous and increasing demands of the office of the chief executive require more and more extensive travel, and the high speed and comfortable service of the modern transportation systems make it possible to cover territory in a way that would have seemed slightly less than miraculous a half-century ago.

In spite of these numerous and prolonged journeys made by the President, few of his trips receive more than a passing mention, and, over the years, few presidential trains have been so noteworthy as to merit historical remembrance in the manner of two related to the activities of President Lincoln's service to his country, marking the jubilant beginning and the sorrowful ending of his administration.

The first of these was the train bearing him to his inauguration, from Springfield, Ill., to Washington, D. C., in 1861; the other in 1865, carrying the mortal remains of this beloved President, from Washington back to their final resting place in Springfield.

In Bulletin No. 55, Mr. Warren Jacobs presented, in connection with an article on the old 30th Street depot of the Hudson River R. R., in New York City, a most interesting account of the visits of Mr. Lincoln to New York, and, further, recounted the routing of the famous inauguration train, which left Springfield, Ill., at 8 o'clock in the morning of February 11th, 1861, from the depot of the Great Western (later Wabash) R. R.

Mr. Jacobs recorded the route of this train in the names of the participating railroads as they are presently known and, in order that those roads may be of record under their then-existing names, the following is presented, as related by Mr. John W. Starr, Jr., in his "Lincoln and the Railroads."

Date in 1861	Station	Time	Railroads
Feb. 11	Lv. Springfield	8:00 A.M.	Great Western (Ill.) to Ill.-Ind. Line (Wabash)
			Toledo & Wabash to Lafayette, Ind. (Wabash)
	Ar. Indianapolis	8:00 P.M.	Lafayette & Indianapolis R. R. (NYC-Big Four)
Feb. 12	Lv. Indianapolis	10:00 A.M.	Indianapolis & Cincinnati R. R. (NYC-Big Four)
	Ar. Cincinnati		Late in afternoon.
Feb. 13	Lv. Cincinnati	9:00 A.M.	Little Miami R. R. to Xenia, O. (PRR)
	Ar. Columbus	2:00 P.M.	Columbus & Xenia R. R. (PRR)
Feb. 14	Lv. Columbus	8:00 A.M.	Central Ohio R. R. to Newark, O. (B&O)
			Steubenville & Indiana R. R. to S'ville, O. (PRR)
			Cleveland & Pittsburgh R. R. to Rochester, Pa. (PRR)
	Ar. Pittsburgh	8:00 P.M.	Ohio & Pennsylvania R. R. (PRR)
Feb. 15	Lv. Pittsburgh	A.M.	Ohio & Pennsylvania R. R. to Rochester, Pa.
	Ar. Cleveland	4:20 P.M.	Cleveland & Pittsburgh R. R. (PRR)
Feb. 16	Lv. Cleveland	9:00 A.M.	Cleveland, Painesville & Ashtabula R. R. (NYC-LS&MS)
			Erie & North East R. R. to N. Y.-Pa. Line (NYC-LS&MS)
	Ar. Buffalo	P.M.	Buffalo & State Line R. R. (NYC-LS&MS)

Feb. 18	Lv. Buffalo	5:45 A.M.	New York Central R. R.
	Ar. Albany	2:30 P.M.	New York Central R. R.
Feb. 19	Lv. Albany	8:00 A.M.	Albany & Vermont R. R. to Waterford Jct. N. Y. (D&H) Rensselaer & Saratoga to Green Island Jct. (D&H) Troy Union R. R. to Troy (NYC-D&H-B&M)
	Ar. New York City	3:00 P.M.	Hudson River R. R. (NYC)
Feb. 21	Lv. New York City	8:00 A.M.	via ferry to Jersey City, N. J. N. J. R. R. & T. Co. to New Brunswick, N. J. (PRR) Camden & Amboy R. R. to Trenton, N. J. (PRR)
	Ar. Philadelphia	4:00 P.M.	Phila. & Trenton R. R. Kensington Depot (PRR)
Feb. 22	Lv. Philadelphia	A.M.	Pennsylvania R. R.
	Ar. Harrisburg	4:00 P.M.	Pennsylvania R. R.
	Lv. Harrisburg	P.M.	P. R. R. special train to Philadelphia
Feb. 23	Ar. Washington	6:00 A.M.	P. W. & B. Night Express to Baltimore (PRR) Baltimore & Ohio R. R.

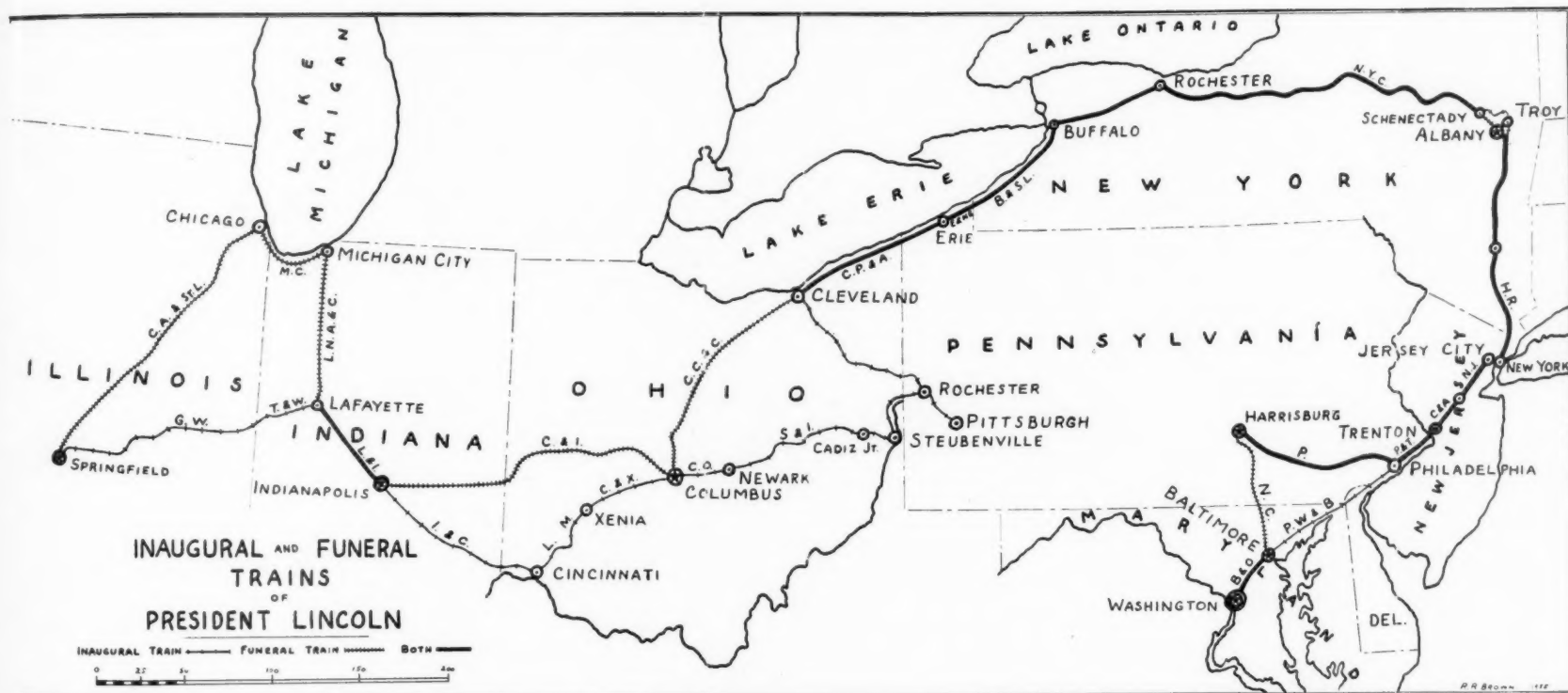
The first train of the eastward journey consisted of one baggage car and one coach pulled by engine "L. M. Wiley," a Hinkley (shop No. 568) 4-4-0, having 14" x 22" cylinders and 54" diameter drivers. Lincoln and his party stayed at the Bates House in Indianapolis, and Mr. Lincoln addressed the Indiana Legislature the following day.

Stopping at the Burnet House, in Cincinnati, he made two speeches in that city, and next addressed the Ohio Legislature at Columbus, where he was entertained as the guest of Gov. Dennison. At Cadiz Junction, the entire party was treated to an elaborate dinner prepared by Mrs. T. L. Jewett, wife of the president of the Steubenville & Indiana R. R.

The Monongahela House, in Pittsburg, and the Weddell House, in Cleveland, were hosts to the Lincoln party while in those cities; and the journey was interrupted by stops at Buffalo, where he stayed at the Delavan House.

Mr. Jacobs has given a detailed account of Mr. Lincoln's travels from Buffalo to New York City and his stay at the latter place. The train left East Albany, pulled by locomotive "Union" to Poughkeepsie, and by the "Constitution" from there to New York. Both were 4-4-0's, nearly new, with 16" x 22" cylinders and 66" diameter drivers. Stops were made en route at Hudson, Rhinebeck, Poughkeepsie, Fishkill and Peekskill, where the President-elect made short speeches.

The train arrived at 3 P. M. at the 30th Street Depot, which was put into use for the occasion, several days in advance of the date scheduled. Mr. Lincoln stayed at the Astor House, and was given elaborate police protection by the New York police force. He attended the opera on the evening of February 20th. On the following day, the party left New York at eight in the morning, on the Cortlandt Street ferry, whose new boat, the "John P. Jackson," was handsomely decorated. Locomotive "William Pennington," of the N. J. R. R. & T.



Drawn by R. R. Brown

Date
1865
April

April
April

April

Co., hauled the special train from Jersey City to New Brunswick, where the Camden & Amboy took charge of the train.

Arriving at Philadelphia at four o'clock in the afternoon, the party spent the night at the Continental Hotel, and Mr. Lincoln delivered an address, on the 22nd, at Independence Hall, after which the inaugural train moved to Harrisburg.

Original plans had called for the train to proceed over the Northern Central from Harrisburg to Baltimore, thence over the B. & O. to Washington. However, there was at that time much ill-feeling towards Mr. Lincoln in some sections of the country, and a plot to wreck the train between Harrisburg and Baltimore was discovered. Allen Pinkerton, of the detective agency fame, was in charge of the safe conduct of the president-elect, and insisted upon re-routing the journey of Mr. Lincoln.

Accordingly, and with the utmost secrecy, it was arranged with the Pennsylvania Railroad to have a special train transport Messrs. Lincoln and Pinkerton to Philadelphia, at which place the men boarded the mid-night express of the Philadelphia, Wilmington & Baltimore R. R., going to Baltimore. The conductor of the P. W. & B. train was told to hold his train until a "valuable package" was placed thereon. When the famous passenger and his guard were safely on the train, the conductor was notified that the "package" was on board, and the train started out and proceeded as usual.

The coach with Mr. Lincoln and Mr. Pinkerton aboard was transferred, in the early morning hours, along Pratt Street, in Baltimore, from the President Street Station of the P. W. & B. to the Camden Station of the B. & O., over a mile distant. The B. & O. handled the train to Washington. It is said that this train was pulled by B. & O. engine No. 25, a Mason eight-wheeler of 1856, which is still preserved by the B. & O.

The inaugural train travelled from Harrisburg to Baltimore, via the Northern Central, thence to Washington over the B. & O., just as scheduled, but without Mr. Lincoln and Allen Pinkerton.

(Editor)

The routing of the funeral train, also supplied by Mr. Starr, was as follows:—

Date in 1865	Station	Time	Railroads
April 21	Lv. Washington	8:00 A.M.	Baltimore & Ohio R. R. Nine cars
	Ar. Baltimore	10:00 A.M.	Camden Station
	Lv. Baltimore	3:00 P.M.	Northern Central Ry. (PRR)
	Ar. Harrisburg	8:00 P.M.	
April 22	Lv. Harrisburg	11:00 A.M.	Pennsylvania R. R.
	Ar. Philadelphia	4:30 P.M.	
April 23	Lv. Philadelphia	4:00 A.M.	Philadelphia & Trenton R. R. to Trenton, N. J. (PRR)
			Camden & Amboy R. R. to New Brunswick, N. J. (PRR)
	Ar. Jersey City	10:00 A.M.	N. J. R. R. & T. Co. (PRR)
			Funeral car ferried to New York City
April 25	Lv. N. Y. City	4:00 P.M.	Hudson River R. R. (NYC&HR)
	Ar. East Albany	11:00 P.M.	Funeral car routed to Albany via Troy, N. Y.

April 26	Lv. Albany	4:00 P.M.	New York Central R. R.
April 27	Ar. Buffalo	7:00 A.M.	
	Lv. Buffalo	10:00 P.M.	Buffalo & State Line R. R. to N. Y.-Pa. Line (NYC-LS) Erie & North East R. R. to Erie, Pa. (NYC LS&MS)
April 28	Ar. Cleveland	7:00 A.M.	Cleveland, Painesville & Ashtabula R. R. (NYC LS&MS)
	Lv. Cleveland	12:00 Mdnt	Cleveland, Columbus & Cincinnati R. R. (NYC Big Four)
April 29	Ar. Columbus	7:00 A.M.	
	Lv. Columbus	8:00 P.M.	Columbus & Indianapolis Central R. R. (PRR)
April 30	Ar. Indianapolis	7:00 A.M.	
	Lv. Indianapolis	12:00 Mdnt	Lafayette & Indianapolis R. R. to Lafayette, Ind. (NYC) Louisville, New Albany & Chicago R. R. to Michigan City, Ind. (Monon)
May 1	Ar. Chicago	11:00 A.M.	Michigan Central R. R. (NYC)
May 2	Lv. Chicago	9:30 P.M.	Chicago, Alton & St. Louis R. R. (GM&O)
May 3	Ar. Springfield	9:00 A.M.	(Due 6:30 A.M. 2½ hrs. late)

The body of Mr. Lincoln, who died on April 15th, 1865, was that day placed in the East Room of the White House, and funeral services were conducted there on Wednesday morning, April 19th. Mourners attending the services were admitted by card.

At two o'clock in the afternoon, the casket was conveyed to the rotunda of the Capitol, followed by a large procession, where it remained until six A. M., on the 21st. On that date, the funeral train, consisting of nine cars, including a baggage car and a hearse car, left the B. & O. Station in Washington, at 8:00 A. M., for Baltimore.

At Baltimore the casket was taken to the rotunda of the Merchants Exchange, upon arrival of the train at Camden Station, at 10:00 A. M., and remained there on display for several hours before being taken to the Howard Street Station of the Northern Central (P. R. R.) Railroad, for train departure at 3:00 P. M., to Harrisburg, Pa., where it arrived at 8:00 P. M.

At Harrisburg the remains of Mr. Lincoln were escorted to the hall of the House of Representatives in the State Capitol, where they remained until ten o'clock the following morning, Saturday, April 22nd.

The funeral train left Harrisburg at 11:00 A. M., on that date, for Philadelphia, over the Pennsylvania Railroad, arriving at the Philadelphia, Wilmington & Baltimore Railroad Station on Broad Street, at 4:00 P. M. A large procession escorted the casket to Independence Hall.

On Monday, April 24th, the train left the Kensington Station at four o'clock in the morning via the New York & Philadelphia Line, for Jersey City.* Upon arrival there the casket was taken to the ferry

* The New York and Philadelphia Line was made up of the Philadelphia & Trenton R. R., the Camden & Amboy R. R., and the New Jersey R. R. & Transportation Co.

for transfer to the Debrosses Street ferry station in New York, for ten o'clock arrival. Here, again, a large procession escorted the remains to the rotunda of the City Hall.

The funeral train left the 30th Street Station of the Hudson River Railroad (N. Y. C. & H. R.) at 4:15 P. M., Tuesday, April 25th, to resume the westward journey. The hearse car and the escort car of several generals, who accompanied the party through their respective jurisdictions, were floated over from Jersey City to the Hudson River Railroad, and made into a new train consist for the westward journey. It arrived at East Albany, at 10:55 P. M., where the cortege moved by ferry boat to Albany and the State Capitol. The train continued to Troy, crossed the Hudson bridge and proceeded to the New York Central Railroad depot in Albany. (See note).

The westward journey was resumed on Wednesday, April 26th, at 4:00 P. M., the train arriving at Buffalo, N. Y., at 7:00 A. M., on Thursday, April 27th, where the casket was removed from the train and taken to St. James Hall, remaining there until it was returned to the railroad station for resumption of the journey at ten o'clock that night, over the Buffalo & State Line and Erie & North East Railroads to Erie, Pa., thence via the C. P. & A. to Ashtabula.

Upon arrival at the Euclid Street Station in Cleveland, at seven o'clock Friday, April 28th, the casket was conducted to a temporary structure in the public park on Superior Street, after which it was returned to the Euclid Street Station for train departure at midnight. Travelling over the tracks of the Cleveland, Columbus & Cincinnati (N. Y. C.), the train arrived at Columbus, at 7:30 o'clock, Saturday morning, the 29th. Here the casket was displayed in the rotunda of the State Capitol, and was returned to the funeral train, which departed for Indianapolis, at 8:00 P. M., via the Columbus & Indianapolis Central R. R. (P. R. R.) The routing to Indianapolis was via Piqua to Bradford, thence south to Richmond, Indiana, and west to Indianapolis, where the train arrived at seven o'clock, Sunday morning, the 30th.

At Indianapolis the funeral cortege proceeded to the State House, and mourners passed through the Capitol to view the martyred President. The funeral train left at midnight over the Indianapolis & Lafayette Railroad (N. Y. C.) for Lafayette, Ind., where it was turned over to the Louisville, New Albany & Chicago Railroad (Monon) at 3:35 A. M., Monday, May 1st, for the run to Michigan City, Ind. Arriving there at 8:00 A. M., the train proceeded over the Michigan Central Railroad (N. Y. C.) to Chicago, where it arrived at Park Place, on the lake front, at eleven o'clock in the forenoon. (Park Place was one mile south of the regular station and one block north of what is now Roosevelt Road.)

Temporary platforms had been prepared here to handle the funeral party, which accompanied the casket to the Court House on Clark Street, where the public was admitted to view the remains until 8:00 P. M., Tuesday, May 2nd. Moving then to the depot of the Chicago, Alton & St. Louis Railroad (G. M. & O.), on Canal Street, departure was made at 9:30 P. M., over that line to Springfield, time of arrival being nine o'clock, Wednesday morning, May 3rd.

At Springfield, the body of Mr. Lincoln was removed to the hall of the House of Representatives in the State House, and the next day was taken to the public vault in Oak Ridge Cemetery, at Springfield, for temporary interment, later to be placed in its final resting place in the magnificent tomb and monument built with State public funds.

Note: The New York Central Railroad referred to in the foregoing is the New York Central Railroad Company formed in 1853 through the consolidation, effective May 1st, 1853, of various companies having railroads between Albany and Troy and Buffalo, and was organized under a special law of the State of New York, passed April 2nd, 1853, in accordance with agreement of consolidation dated May 17th, 1853, and filed in the office of the Secretary of State of the State of New York, on July 7th, 1853. The companies entering into this consolidation were:—

Albany & Schenectady R. R.

(The former Mohawk & Hudson)

Schenectady & Troy R. R.

Utica & Schenectady R. R.

Syracuse & Utica R. R.

Rochester & Syracuse R. R.

Mohawk Valley R. R.*

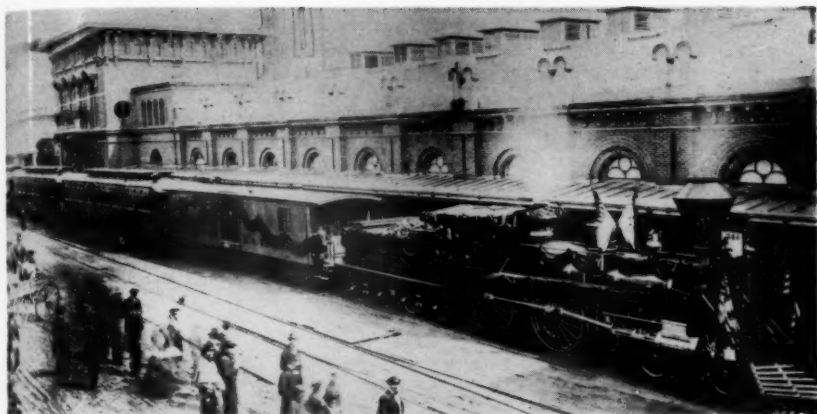
Syracuse & Utica Direct R. R.*

Buffalo & Rochester R. R.

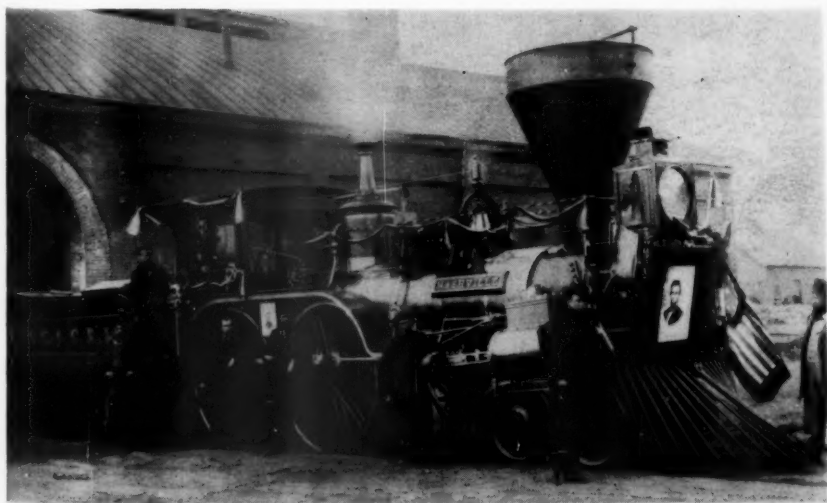
Rochester, Lockport & Niagara
Falls R. R.

Buffalo & Lockport R. R.

* The M. V. and S. & U. D. Railroads were non-operating companies.



The Lincoln Funeral Train at Harrisburg



The "Nashville" hauled the Lincoln Funeral Train leaving Cleveland, Ohio

o
t
v
A
i
t
o
R
o
n
o
R
o
o
A
o
a
R
r
e
L
a
R
o
R
L
R
t
R
e
e
i
s
v
t
n
t
h
o
R

The U. S. R. A. Locomotives

BY WILLIAM D. EDSON

Without a doubt the most universally accepted steam locomotives ever built were the U. S. R. A. standard locomotives designed during the regime of the United States Railroad Administration of World War I. A total of 1856 were built to twelve distinct designs for the Administration itself, and almost twice that number were built for the individual railroads following their return to private ownership when the war was over. In fact, new steam locomotives built to U. S. R. A. designs have been ordered in recent years, even after the growth in popularity of the diesel locomotive. Well over 5000 of these U. S. R. A.-design locomotives were built, distributed among almost all the major railroads of the country, and it is safe to say that a very high percentage of these engines are still in existence (1953).

The whole idea of standardized power for American Railroads began back in the winter of 1917-1918. The country was, of course, engaged in the first major war of the century, and the railroads were deluged with heavy traffic in the face of an extremely severe winter. A shortage of power had developed on the Eastern roads, and the condition of all locomotives was poor due to inadequate repair facilities and a shortage of railroad mechanics. To help ease the situation, a group of 200 new Russian Decapod engines (100 built by ALCO, and 100 by BLW.) were converted from 5-foot gauge to standard, and then released by the government for rental to the railroads at \$50 each per day, after international complications prevented their delivery abroad. But the clamor for additional new power became intense, and finally an Administration bill was introduced in Congress in January, 1918 providing for the appropriation of \$500 million, to include the purchase of railroad equipment and locomotives.

The new locomotives were to be bought for the railroads by the Director General of the U. S. R. A., with the stipulation that they be built to standardized designs which would be furnished later. Here began a furious debate in railroad circles, as can be expected wherever the idea of standardization in any industry arises. The advantages of building standard locomotives were obvious: Production would be speeded, unit costs would be lower, and in the words of the government "an effective liquid reserve of power would be available for transfer wherever it was needed."

Some locomotive men, however, were quick to point out that any standardized design would have to be a compromise to meet the many varied conditions on different lines. The size and weight of the locomotives, they said, would be limited due to clearance restrictions and maximum permissible axle loadings of any railroad which might be expected to use the engines. As a result, standard train loadings would have to be reduced, more trains operated, and actually more locomotives required. New drawings, dies, templates, patterns, castings, and spare parts would have to be made not only by the locomotive builders them-

selves, but also by every railroad using the locomotives of new design. In short, it would disturb *local* standardization on the individual roads, and the question was whether existing designs would serve the railroads better, enabling them to spend their time and money on existing repair programs.

During this time Railway Age took a very dim view indeed toward the idea of standardized designs. According to the issue of March 8, 1918, "Any drastic standardization of equipment is bound to be reflected in increased operating expenses. It will be a boomerang to those who father it." Two weeks later the magazine made an interesting observation concerning a group of 400 locomotives then operating on off-line rails: On the average, these engines were out of service 30% more time than the home locomotives. The same thing would happen, it was inferred, wherever any of the standardized locomotives would go into service.

In the April 5th issue of Railway Age a feature article appeared entitled "Why Locomotives Should Not Be Standardized." A week later the same journal reported that according to Alba B. Johnson, president of the Baldwin Locomotive Works, the proposed standard locomotives would require 50 million pounds more of iron and steel than if tailor-made, and at an increase in cost of \$7½ million.

Even after many of the new U. S. R. A. locomotives had been delivered, opposition continued strong toward the whole idea, as reflected in the following paragraph printed as part of an editorial in Railway Age of Dec. 20, 1918: "One party facetiously suggests that it might be a splendid idea to melt the whole mess of standard locomotives into a big casting and erect it as a monument in some central location in Washington, suitably ascribed to the handful of men who, in spite of the warnings they received, went ahead and attempted to foist their hobby upon the American railroads. Such a warning might come in useful for future generations." What happened to this warning, we might ask, with the advent of the assembly-line diesel locomotive?

Meanwhile, despite the protests against the proposed standard locomotives, plans were being made to go ahead and build them. S. M. Vauclain, senior vice president of Baldwin, had been appointed chairman of a committee on production of the Council of National Defense. On February 13, 1918, Mr. Vauclain was requested by U. S. R. A. Director General MacAdoo to appoint a Committee of Locomotive Builders to consider standardization of new motive power. This committee, headed by Vauclain himself, included the following:

Grafton Greenough, vice president of Baldwin
Andrew Fletcher, president of Alco
Charles M. Muchnic, vice pres., Alco
J. D. Sawyer, vice pres., Alco
J. B. Ennis, vice pres. & chief mech. engr., Alco
John E. Dixon, vice pres., Lima Loco. Works
W. E. Woodward, vice pres. & mech. engr., Lima
H. P. Ayres, vice pres., H. K. Porter

Less than a week later, on February 19th, the Builders' Committee reported back to Henry Walters, chairman of the Atlantic Coast Line and the Louisville & Nashville Railroads, who had been placed in charge of the standardization investigation by MacAdoo. The recommendations of the committee were that two or more designs of each of the following types be prepared: 2-8-2 (one to weigh about 281,000 lbs. and another about 311,000 lbs.), 2-10-2, Mallet, 4-6-2, and switcher. These recommended standards were then referred to a second committee, consisting of railroad motive power officers, three of whom were appointed by each Regional Director, as follows:

Eastern District, from the B. & M., Erie, and N. Y. C.

Southern District, from the I. C., N. & W., and Southern.

Western District, from the C. & N. W., N. P., and A. T. & S. F.

In addition, motive power men of the Pennsylvania (Lines West), B. & O., C. M. & St. P., D. L. & W., and S. P. were called in. Appointed chairman of the group was H. T. Bentley, Supt. of Motive Power and Machinery of the C. & N. W., who was then acting as assistant to C. R. Gray, Director of the U. S. R. A. Division of Transportation.

This Railroad Committee commenced work on February 22nd, and after studying the builders plans, designs were prepared for the twelve classes of locomotives which actually came into being, as listed on Table II. The committee reported back to Walters in mid-April, and on April 19th, 1918, the standard designs and specifications were approved in general by the Regional Directors. Immediately the tentative specifications for the twelve designs were sent to all the railroads to determine the needs of each road for the remainder of the year. Finally, on April 30th, the first order for 1025 locomotives was placed, for delivery beginning in July. The \$60 million order was split between Alco (550 locomotives) and Baldwin (470, of which 30 were later cancelled). Lima was not included because at the time the plant was already operating at full capacity. Accompanying the order was a government statement reading as follows: "This is the first time that any real forward step has been taken looking to the wide standardization of locomotive engines."

The total number of each type included in this first order is listed in the first column of Table I. It will be noted that some of each design were ordered from each builder, which hardly made for the most efficient production, but evidently prepared a foundation for future orders.

The locomotives were to be allocated among the various roads where most needed. Table III lists where each one was actually delivered but it will be noted that many were transferred from one road to another shortly before delivery.

The important dimensions of each of the twelve designs are listed in Table II, along with references where detailed information and drawings may be found. In general, the locomotives were designed for 19° curves, with an axle loading of 55,000# and 60,000#, maximum height of 15' 0" (except the heavy 2-10-2 and 2-8-8-2 which were 15' 9"), and width of not over 10' 9". Superheaters, brick arches, and mechanical fire doors were specified for all locomotives, and mechanical stokers for all except

the switchers and light Pacifics. The latter were equipped with coal-pushers instead. Tenders were standardized in three sizes: 8000; 10,000; and 12,000 gallon capacities. All locomotives were equipped with the new electric headlights, huge by present-day standards.

It is interesting to note in this connection how the question of locomotive specialties was handled. At first it was feared that standardization of design would have a harmful effect on the development of various devices, that there was danger of eliminating patented devices. It was soon announced, however, that modern devices of proved merit would be approved, but that experimental gadgets were not to be included. Where 50 or 60 locomotives were assigned to one railroad, that line could indicate the particular specialties it desired. Then, on April 1st, all manufactures of locomotive specialties were called into conference with the Central Advisory Purchasing Committee, and all bids were in by April 29th. Specialties were then ordered from the various companies shortly after the locomotives themselves were ordered, and these included two types of automatic firedoors, four reverse gears, three injectors, and two lubricators. Of the 775 locomotives to be equipped with stokers, 570 were to have Duplex, 170 Standard, and 35 Hanna. 500 locomotives were built with Walschaert valve gear, 340 Baker, and 185 Southern.

In mid-June 1918, before the first U. S. R. A. locomotive had been delivered, 390 more were ordered. Included this time were 45 light Mikados from Lima for the New York Central, plus 100 heavy Mikados from Baldwin. The Baldwin order was later cancelled, however, as outlined in the notes for Table I, although 30 were re-ordered as non-standard 2-8-0's for the Philadelphia & Reading, making a total of 320 actually built on the June order.

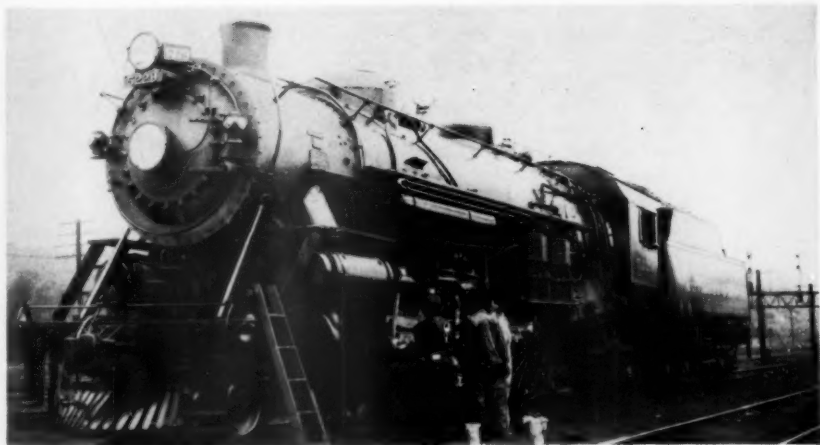
Finally, on July 1, 1918, Baldwin delivered the first U. S. R. A. standard locomotive. It was a light 2-8-2 for the Baltimore & Ohio, their road number 4500. It had been barely two months since the first order was placed, and only 4½ months since the design of the locomotives had been initiated. Delivery of the locomotives was rather slow at first, but in August Alco delivered its first number, the initial heavy Mikado, W. & L. E. No. 6001. During the next month the first switcher came out of the shop, T. & O. C. 0-8-0 No. 9543. By the end of September, 150 locomotives of all three types had been outshopped. In October and November Alco produced the first 0-6-0, C. J. No. 221, and light Santa Fe, Sou. No. 5200, and by the end of the latter month over 500 U. S. R. A. locomotives were on the rails. A total of 744 were delivered by the end of the year, including the first heavy 4-8-2, C. & O. No. 133, built in December. To complete this part of the record, in January 1919, the first 2-6-6-2 was built (C&O No. 875) and the first heavy 2-10-2 (C&EI No. 2007). Next came the first 2-8-8-2 (Vgn. No. 900) in February, followed by both Pacifics in March (ACL No. 493 and Erie No. 2925). And finally, in April the first light 4-8-2 was built (NYNH&H No. 3300).

Going back to July, 1918, an order for 15 more light 2-8-2's was placed with Lima late in the month for a total of 60 so far from that builder. About that same time, orders for a phenomenal number of "Pershing" Consolidation locomotives were placed with Baldwin: 500 late in July, then 10 more, and then 500 more. By November, Baldwin



Courtesy of J. H. Dean

B. & M. #512, U. S. R. A. 0-8-0 switcher, at Mechanicville, N. Y.



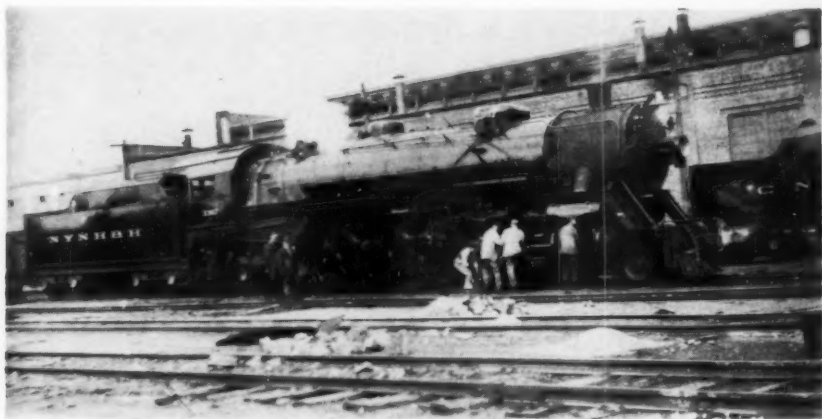
Courtesy of B. D. Fales

B. & O. #5229, U. S. R. A. Light Pacific, being groomed for the inaugural trip of the "National Limited" at Washington, D. C.



Courtesy of C. E. Fisher

N. Y. C. #5105, U. S. R. A. Light Mikado Type, leaving Rochester, N. Y.



Courtesy of C. E. Fisher

N. Y. N. H. & H. #3307, U. S. R. A. Light Mountain Type, getting the finishing touches at Readville Shops

was working on these locomotives exclusively, and by the end of the month had actually constructed over 750 of them! Their order for U. S. R. A. locomotives, of course, had to be reduced, and as a result 100 locomotives in April and June were cancelled and re-ordered in October from Lima, as shown in Table I.

Late in October, the final order for 600 additional locomotives was announced. This total included the 100 from Lima discussed above, and 500 from Alco. The Alco order was changed two different times before the contract was finally signed on December 4th.

By the end of the year, the new U. S. R. A. locomotives had had ample opportunity to prove themselves. The general feeling was that the engines were satisfactory so far, with the exception of the grates, grate rigging, and front end arrangement. In its Jan. 3, 1919 issue, *Railway Age* commented, "As to the design of the locomotives themselves, the Standardization Committee is to be congratulated on the work it accomplished in the short space of time allotted it for the work." Some special devices caused trouble, it was reported, but the locomotives were found to be free steamers, of ample boiler capacity, and well liked by the engine crews with the exception of the cab arrangement.

Of some interest were the financial arrangements for these locomotives. They were allocated to the various roads on the basis of orders placed by the railroads as revised by the Regional Directors and the officers of the central administration in Washington. In effect, the locomotives were ordered by the government, but were to be financed by the railroads themselves wherever possible. In cases of financial difficulty (which was common among the roads during the period of government operation) the roads were to apply to the government through the Division of Finance and Purchases for a loan from the "revolving fund" of \$500 million mentioned in the beginning of this paper. Several railroads hesitated to pay for the locomotives, and the Toledo & Ohio Central (NYC) took its case to court, contesting the right of the United States Railroad Administration to make it pay for "their" locomotives.

Of the 1930 locomotives actually ordered by the U. S. R. A., only 1856 were actually built to the twelve standard designs. Beginning in October, 1919 as a result of relaxation of policy by the U. S. R. A., 44 locomotives ordered in the last group of 600 were allowed to be "Custom-Built" for the Central R. R. of New Jersey, Fort Worth & Denver City, Kansas City Southern, and Texas & Pacific. 30 additional custom-built 2-8-0's for the Reading have already been mentioned.

However, during the earlier period of U. S. R. A. control, only five railroads were permitted to acquire locomotives of their own design; these were the B&O and Virginian (Mallets); engines for the B&M which would meet clearance restriction of the Hoosac Tunnel; home-made locomotives of the PRR; certain locomotives for the KCS; and of course, Wooten-firebox engines for the Reading.

There can be no doubt that the U. S. R. A. locomotives were an overwhelming success. But the wisdom in attempting standardization of all locomotives at that particular time of war was still being questioned long after all 1930 engines had been ordered. *Railway Age* still considered "the Standardization Program a most serious mistake" (RA

1/10/19). Perhaps it would have been better to build a large number of identical locomotives, all of a single design, for the "liquid reserve" pool as suggested by Mr. A. H. Smith, president of the New York Central. His Proposal to build 1000 light Mikados was discussed in an interesting editorial appearing in R&LHS Bulletin No. 81, p. 64.

But in the end, the decision to build not one but twelve standard designs was regretted by only a few, and the fears expressed by many periodicals including *Railway Age* were not warranted. This first true attempt at standardization yielded some excellent locomotives which made lasting impressions on future designs. Year after year following the war the railroads came back for more U. S. R. A. design locomotives when purchasing new power. Table V will give some idea of the number involved. As a matter of fact, among the last steam locomotives ordered from American builders were two Heavy 2-8-2's for the West Point Route. And by a slight stretch of the imagination it can be said that the only steam locomotives being built today are U. S. R. A. engines. Both the 0-8-0's and the heavy mallets under construction at Roanoke for the Norfolk & Western are of designs adapted from the original U. S. R. A. plans.

The story of the U. S. R. A. locomotives, coupled with the recent history of the mass-produced diesel locomotive, serves to disprove without question the old theory that railroad locomotives could not be standardized successfully.

The author is particularly indebted to the following individuals who were most co-operative in furnishing certain information:

Mr. J. Uhrig, Master Mechanic, Belt Railway of Chicago, Chicago, Ill.
Mr. R. J. Williams, Chief Mechanical Officer, Chesapeake & Ohio, Detroit.
Mr. G. P. Trachta, General Supt. Motive Power, Chicago, Rock Island & Pacific, Chicago, Ill.

Mr. C. M. House, General Supt. Motive Power & Car Equipment, Gulf, Mobile & Ohio, Mobile, Ala.

Mr. H. W. Mathews, Master Mechanic, Kansas City Terminal Ry., Kansas City, Mo.

Mr. L. R. Christy, Chief Mechanical Officer, Missouri Pacific, St. Louis, Mo.

Mr. T. C. Shortt, Chief Mechanical Officer, New York, Chicago & St. Louis, Cleveland, Ohio.

Mr. W. B. Berry, Chief Mechanical Officer, St. Louis-San Francisco, Springfield, Mo.

Mr. B. C. Gunnell, Chief Mechanical Engineer, Southern, Washington, D. C.

Mr. Frank Ross, Supt. Motive Power & Equipment, Terminal Railroad Assoc. of St. Louis, St. Louis, Mo.

Mr. E. R. Buck, General Supt. Motive Power, Wabash, Decatur, Ill.

Miss Elizabeth O. Cullen and staff of the Library of the Bureau of Railway Economics, Washington, D. C.

The author also wishes to express his gratitude to Mr. Charles E. Fisher, president of the Railway & Locomotive Historical Society, whose assistance in the preparation of this article was invaluable.

References

RAILWAY AGE, years 1917-1919.

RAILWAY MECHANICAL ENGINEER, years 1917-1919.

LOCOMOTIVE CYCLOPEDIA since 1920.

R. & L. H. S. BULLETIN No. 81, p. 64.

Locomotive rosters appearing in RAILROAD STORIES and RAILROAD MAGAZINE.

"Statement of locomotives shipped for the year ended Dec. 31, 1918," published by U. S. R. A. Director General of Railroads, Division of Operations, Mechanical Department. Dated Jan. 25, 1919.

(Same) for the year ended Dec. 31, 1919. Published Jan. 28, 1920.

"Allocation of Equipment Purchased by the U. S. R. A.—Allocation of Locomotives" published 3/1/20 by Division of Liquidation Claims.

"Report of the Director General of Railroads, 1924."

Records of the American Locomotive Company, Schenectady, N. Y.

TABLE I
U. S. R. A. Locomotives (Total 1856)

Type	Built on April 1918 Order	Built on June 1918 Order	Built on July 1918 Order	Built on Oct. 1918 Order	Alco	Builders Blw.	Lima	Total No. Built
0-6-0	30 Alco-C 20 Blw.	30 Alco-C 70 Alco-P	(none)	55 Alco-S 50 Alco-C (Note 4)	235	20	0	255
0-8-0	45 Alco-B 30 Alco-P 45 Blw. (1)	(none)	(none)	25 Alco-B 30 Lima (Notes 1&4)	100	45	30	175
Light 2-8-2	183 Blw. 217 Alco-S	45 Lima 70 Alco-S (6)	15 Lima (none)	70 Lima 25 Alco-S (Notes 3&4)	312	183	130	625
Heavy 2-8-2	70 Alco-B 30 Blw.	60 Alco-B (6) (Note 2)	(none)	73 Alco-S (Note 4)	203	30	0	233
Light 2-10-2	75 Alco-B 19 Blw. (5)	(none)	(none)	(Note 4)	75	19	0	94
Heavy 2-10-2	25 Alco-B 40 Blw. (5)	15 Alco-B	(none)	95 Alco-B (Note 4)	135	40	0	175
2-6-6-2	15 Alco-S 15 Blw.	(none)	(none)	(none)	15	15	0	30
2-8-8-2	5 Alco-S 41 Blw. (5)	(none)	(none)	40 Alco-S 20 Alco-R (Note 4)	65	41	0	106
Light 4-6-2	10 Alco-R 20 Blw.	(none) (Note 2)	(none)	13 Alco-R 38 Alco-B (Note 4)	61	20	0	81
Heavy 4-6-2	10 Alco-R 10 Blw.	(none)	(none)	(none)	10	10	0	20
Light 4-8-2	20 Alco-R 15 Blw.	(none)	(none)	12 Alco-R (Note 4)	32	15	0	47
Heavy 4-8-2	3 Alco-B 2 Blw.	(none)	(none)	10 Alco-B (Note 4)	13	2	0	15
Custom- Built	(none)	30 Blw. (2)	(none)	8 Alco-S 36 Alco-B (Note 4)	44	30	0	1856 74
Totals	555 Alco 440 Blw.	245 Alco 30 Blw. 45 Lima	15 Lima	500 Alco 100 Lima	1300	470	160	1990
	995	320	15	600				1990

Notes on Table I

Note 1—Original 1918 April order with Baldwin was for 75 0-8-0's. 30 were cancelled and re-ordered in October from Lima.

Note 2—An additional order was placed in June 1918 with Baldwin for 100 locomotives. Originally all 100 were to be heavy 2-8-2's. Later this was changed to 57 heavy 2-8-2, 13 light 4-6-2, and 30 special 2-8-0 for the Reading. In October, the 57 heavy 2-8-2 and 13 light 4-6-2 were cancelled, and then reordereed with Lima as 70 light 2-8-2's. Only the 30 2-8-0's were built by Baldwin.

Note 3—Original October 1918 order with Lima was for 50 0-6-0 and 50 light 2-8-2's. The order was changed on Nov. 15th to 100 light 2-8-2's, but then reduced to 70 when the 30 0-8-0's mentioned in Note 1 were reordered from Lima.

Note 4—Original October 1918 order with Alco for 500 locomotives was as follows:

0 0-6-0	changed to 50 on Nov. 15
150 0-8-0	
200 light 2-8-2	changed to 150 on Nov. 15
50 heavy 2-8-2	
25 light 2-10-2	changed to 20 on Nov. 15
0 heavy 2-10-2	changed to 5 on Nov. 15
75 2-8-8-2	

These 500 locomotives were actually delivered as shown on Table I after the order was changed a second time in December.

Note 5—Original order with Baldwin was for 75 light 2-10-2, 10 heavy 2-10-2, and 15 2-8-8-2. This order was changed to 19 light 2-10-2, 40 heavy 2-10-2 and 41 2-8-8-2.

Note 6—Original June 1918 order with Alco was for 130 light 2-8-2's. This was changed to 70 light 2-8-2 and 60 heavy 2-8-2 late in July.

Alco-B indicates American Locomotive Co., Brooks Works (Dunkirk)
 Alco-C indicates American Locomotive Co., Cook Works
 Alco-P indicates American Locomotive Co., Pittsburg Works
 Alco-R indicates American Locomotive Co., Richmond Works
 Alco-S indicates American Locomotive Co., Schenectady Works
 Blw. indicates Baldwin Locomotive Works
 Lima indicates Lima Locomotive Works

Table II
Data on U. S. R. A. Standard Locomotives

Type	"Railway Age" Reference	Cylin.	Driv. Di.	B.P.	Engine Weight	Trac. Force	Grate Area	Htg. Surf.	Super-heater	1918 Unit Cost	1919 Unit Cost
0-6-0	10/11/18	21x28	51	190	165000	39100	33	1886	442	\$36,000	\$38,361
0-8-0	9/20/18	25x28	51	175	214000	55000	46.6	2781	673	44,000	46,075
Lt. 2-8-2	7/19/18	26x30	63	200	290800	54600	66.7	3783	882	53,600	60,486
Hv. 2-8-2	8/30/18	27x32	63	190	320000	60000	70.8	4297	993	58,800	63,432
Lt. 2-10-2	12/13/18	27x32	57	200	352000	69400	76.3	4666	1085	62,300	—
Hv. 2-10-2	2/14/19	30x32	63	190	380000	74000	88.2	5156	1230	67,500	73,129
2-6-6-2	1/31/19	23.35x32	57	225	448000	80000	76.3	5443	1292	78,300	—
2-8-8-2	3/14/19	25.39x32	57	240	531000	101300C	96.0	6120	1475	92,200	97,569
						121600S					
Lt. 4-6-2	4/11/19	25x28	73	200	277000	40700	66.7	3333	794	50,900	58,146
Hv. 4-6-2	4/11/19	27x28	79	200	306000	43900	70.8	3824	887	53,900	—
Lt. 4-8-2	5/16/19	27x30	69	200	327000	53900	70.3	4121	966	57,000	57,000
Hv. 4-8-2	12/13/18	28x30	69	200	352000	58000	76.3	4666	1085	61,900	67,900

Total cost of the 1,930 U. S. R. A. locomotives: \$110,097,750

Tonnage Rating Charts for all designs—See "Railway Age" 10/ 4/18
 Clearance and Weight Diagrams —See "Railway Age" 10/25/18
 List of Specialties on each type —See "Railway Age" 1/ 3/19

Table III

U. S. R. A. 0-6-0 (Total 255)

April 1918 Order: Alco (Cooke Works Order C-551)

14	#59330-59343	10/1918	Chicago Junction 221-234
5	59344-59348	10, 11/1918	Atlantic Coast Line 1136-1140
10	59349-59358	11/1918	Central of New Jersey 101-110
1	59359	11/1918	Terminal RR Assoc. 157

Baldwin—For constructions numbers see Table IV

20	(51642-51815)	5, 6/1919	Baltimore & Ohio 350-369
----	---------------	-----------	--------------------------

June, 1918 Order: Alco (Cooke Works Order C-551)

5	#60162-60166	10, 11/1918	Terminal RR Assoc. 158-162
10	60167-60176	12/1918	Seaboard Air Line 1090-1099
10	60177-60186	11, 12/1918	Mobile & Ohio 40-49 (later GM&O)
5	60187-60191	2/1919	Grand Trunk 1744-1748 (Note 8)

Alco (Pitts. Works Order P-749)

15	#60405-60419	11, 12/1918	Penna. 7011, 7030, 7047, 7052, 7055, 7089, 7115, 7216, 7300, 7314, 7641, 9212, 9215, 9360, 9405.
5	60420-60424	11, 12/1918	Penna. (PCC&StL) 8933-8937
10	60425-60434	12/1918	Union Pacific 4451-4460 (Note 10)
4	60435-60438	1/1919	Terminal RR Assoc. 163-166
2	60439-60440	1/1919	Pittsburgh & West Virginia 20-21
10	60441-60450	1/1919	Chicago Rock Island & Pac. 275-284
5	60451-60455	2/1919	Oregon Shore Line (UP) 4753-4757
5	60456-60460	2/1919	Chicago Great Western 480-484
14	60461-60474	3/1919	Texas & Pacific 457-470

Oct. 1918 Order: Alco (Schen. Works Order S-1277)—See Note 7

2	61293-61294	6/1919	Penna. (PCC&StL) 8343, 8402
3	61295-61297	6/1919	Washington Terminal 32-34
5	61298-61302	6/1919	Grand Trunk 801-805 (Note 9)
20	61303-61322	6/1919	Baltimore & Ohio 370-389
10	61323-61332	7/1919	Chicago & N. W. 2626-2635
8	61333-61340	7/1919	Chic., St. Paul, Minn. & Omaha 75-82
7	61341-61347	12/1919	St. Louis-San Francisco 3800-3806

Alco (Cooke Works Order C-554)—See Note 7

25	61348-61372	3, 4/1919	Chic. & N. W. 2601-2625
2	61373-61374	4/1919	Maine Central 175-176
5	61375-61379	4/1919	Atlantic Coast Line 1141-1145
10	61380-61389	4/1919	Chicago, Burl. & Quincy 500-509
5	61390-61394	5, 6/1919	PRR (LW) 7258, 7007, 7014, 7032, 7143
3	61395-61397	5, 6/1919	PRR (PCC&StL) 8166, 8174, 8262

Note 7—Ten of the locomotives in the original Oct. 1918 order were for the Pere Marquette, but these were delivered to another road when the P. M. requested 10 0-8-0's instead.

Note 8—Grand Trunk 1744-1748 renumbered to Grand Trunk Western 7522-7526.

Note 9—Grand Trunk 801-805 reno. to G. T. 1824-1828, then to 7527-7531.

Note 10—Union Pacific 4451-4460 renumbered to 4600-4609 about 1920.

U. S. R. A. 0-8-0 (Total 175)

April 1918 Order: Alco (Brooks Works Order B-1496)

25	#60085-60109	10, 11/1918	New York Central 415-439 (Note 11)
20	60110-60129	11, 12/1918	Southern 1878-1897 (Notes 12, 13)

Alco (Pittsburg Works Order P-748)

5	60130-60134	9/1918	Toledo & Ohio Cen. 9543-9547 (Note 14)
1	60135	10/1918	Atlanta & West Point 215

1	60136	10/1918	Western of Alabama 115
16	60137-60152	10/1918	Erie 120-135
5	60153-60157	11/1918	Wheeling & Lake Erie 5101-5105 (N. 15)
2	60158-60159	11/1918	Rutland 109-110

Baldwin—For construction numbers see Table IV

8	(51599-51658)	5/1919	Elgin Joliet & Eastern 329-336
20	(51702-51846)	5, 6/1919	Indiana Harbor Belt 300-319
10	(51847-51923)	6/1919	Missouri Kansas & Texas 39-48 (Notes 16, 17)
5	(51924-51945)	6/1919	Kansas City Terminal 34-38
2	51946-51947	7/1919	Georgia 801-802

Oct. 1918 Order: Alco (Brooks Order B-1499)

6	61223-61228	5/1919	Louisville & Nashville 2118-2123
4	61229-61232	5/1919	Northern Pacific 1170-1173—(orig. ordered for SP&S)
10	61233-61242	5/1919	Chic. Burl. & Quincy 540-549
5	61243-61247	5, 6/1919	CCC&StL 7440-7444 (Note 18)

Lima (Order L-226)—Orig. ordered 4/1918 from BLW, then cancelled

10	5893-5902	12/19, 1/20	Pere Marquette 1401-1410 (Note 19)—(orig. ordered for CCC&StL)
3	5903-5905	1920	Lake Erie & Western 4250-4252 (Note 20)
10	5906-5915	1, 2/1920	Michigan Central 8940-8949 (Note 21)
3	5916-5918	1/1920	Kanawha & Michigan 553-4,568 (Note 22)
4	5919-5922	3, 4/1920	CCC&StL 7445-7448 (Note 23)—(orig. ord. for LIRR then SP&S)

Note 11—NYC 415-439 renumbered to 7815-7839 in 1936.

Note 12—Southern 1878-1880, 1891, 1892 reno. to CNO&TP 6029-6033 in 7/1920.

Note 13—Southern 1896 reno. to New Orleans & Northeastern 6849 in 8/1920.

Note 14—T&OC 9543-9547 reno. to NYC 7753-7757 in 1936.

Note 15—W&LE 5101-5105 reno. to NYC&StL 271-275 c. 1951.

Note 16—MK&T 39 reno. to CCC&StL 7449 c. 1920, then to NYC 7749 in 1936.

Note 17—MK&T 40-48 reno. to NYC 406, 414, 410, 409, 413, 411, 408, 412, 407 c. 1920, then to 7806, 7814, 7810, 7809, 7813, 7811, 7808, 7812, 7807 in 1936.

Note 18—CCC&StL 7440-7444 reno. to NYC 7740-7744 in 1936.

Note 19—Pere Marquette 1401-1410 reno. to C&O 360-369 in 1947.

Note 20—Lake Erie & Western 4250-4252 reno. to NYC&StL 205-207 c. 1924.

Note 21—MC 8940-8949 reno. to NYC 7840-7849 in 1936.

Note 22—K&M 9548-9550 reno. to NYC 7758-7760 in 1936. (Orig. K&M 553-554 and 568).

Note 23—CCC&StL 7445-7448 reno. to NYC 7745-7748 in 1936.

U. S. R. A. Light 2-8-2 (Total 625)

April 1918 Order: Baldwin—for construction numbers see Table IV.

50	(49153-49615)	7, 9/1918	Baltimore & Ohio 4500-4549
4	(49616-49678)	9/1918	Lehigh & Hudson River 80-83
3	49679-49681	9/1918	Pitts. & West Va. 1000-1002
15	(49682-49729)	9/1918	Lake Erie & Wes. 5540-5554
25	(49827-50671)	9-12/1918	CCC&StL 6089-6113 (Note 25)
10	(50672-50803)	12/1918	Chicago Great Wes. 750-759
5	50804-50808	12/1918	Western Pacific 321-325 (Note 26)
50	(50809-51379)	1-3/1919	Baltimore & Ohio 4550-4599
1	51432	9/1919	Penna. 20038 (this loco., along with the 10 CGW above, orig. ordered for T&P)
9	(51988-52042)	7/1919	Chic. Rock Is. & Pac. 2300-2308
11	(52043-52144)	8/1919	Texas & Pacific 800-810 (orig. ordered for CRI&P)

Alco (Schen. Works Order S-1259)			
15	59503-59517	8, 9/1918	Chicago & Eastern Illinois 1925-1939
20	59518-59537	9/1918	Union Pacific 2295-2314 (Note 28)
10	59538-59547	9/1918	Seaboard Air Line 390-399 (Note 29)
15	59548-59562	9/1918	Toledo & Ohio Central 9732-9746 (Note 30)
15	59563-59577	10/1918	Grand Trunk 440-454 (Note 31)
10	59578-59587	10/1918	N. Y. Chic. & St. L. 601-610 (Note 32)—(orig. ordered as P&LE)
10	59588-59597	10/1918	Chicago & Alton 875-884 (Note 33)
11	59598-59608	10/1918	Texas & Pacific 550-560 (Note 34)—orig. ord. as 5 C&A, 6 LIRR)
6	59609-59614	10/1918	Rutland 32-37
25	59615-59639	10, 11/1918	Southern 4750-4774 (Note 35)
20	59640-59659	11/1918	Michigan Central 7970-7989 (Note 36)
20	59660-59679	11/1918	Wabash 2201-2220 (Note 37)
5	59680-59684	12/1918	Chic., Ind. & Louis. 550-554
10	59685-59694	11/1918	Nash., Chatt. & StLouis 650-659
25	59695-59719	11, 12/1918	New York Central 5100-5124 (Note 38)
June, 1918 Order: Alco (Schen. Works Order S-1259)			
25	60275-60299	11, 12/1918	New York Central 5125-5149 (Note 38)
25	60300-60324	12/1918	Grand Trunk 455-479 (Note 39)
20	60325-60344	12/18, 1/19	Oregon Short Line 2535-2554
Lima (Order L-185)			
45	5750-5794	11/18-1/19	New York Central 5150-5194 (Note 38)
July, 1918 Order: Lima (Order L-185)			
15	5837-5851	9/1919	Missouri Pacific 1301-1315
October 1918 Order: Lima (Order L-185)			
18	#5795-5812	2/1919	Louisville & Nashville 1500-1517
24	5813-5836	8, 9/1919	Indiana Harbor Belt 400-423 (Note 40)
28	5852-5879	3, 4, 10/1919	Pennsylvania 20010-20037 (Note 41)
Alco (Schenectady Works Order S-1265)			
10	60923-60932	2/1919	Monongahela 170-179
6	60933-60938	3/1919	Maine Central 621-626
5	60939-60943	3/1919	Grand Rapids & Indiana 108-112 (Note 42)
4	60944-60947	10/1919	Pennsylvania 20006-20009 (Note 41)

Notes: 15 of the locomotives ordered in July and October were originally ordered for the Chicago Burlington & Quincy, and 20 for the Nash. Chatt. & St. L.

A total of 130 locomotives were originally on order in June with Alco, but this was reduced to 70 when 50 light 2-8-2's for the CM&STP and 10 for the PMcK&Y were reordered as heavy 2-8-2's.

Note 24—LE&W 5540-5554 renumbered to NYC&StL 586-600 c. 1924. Of these, #586, 588, 589, 591-598, 600 were sold to National of Mexico in 10/45, 1/46.

Note 25—CCC&StL 6089-6113 reno. to NYC 1700-1724 in 1936. Of these, #1700-1710 reno. to 1804, 1806, 1810-1816, 1821, 1830 in 1950, then to 6314-6324 in 1951. #1711-1724 reno. to 6300-6313 in 1951.

Note 26—WP 321-325 reno. to Wabash 2nd 2213-2215, 2218, 2219 in 1920.

Note 27—PRR 20038 reno. to Missouri Pacific 1316 c. 1920.

Note 28—UP 2295-2314 reno. to 2480-2499 c. 1920.

Note 29—SAL 390-399 reno. to 490-499 c. 1925.

Note 30—T&OC 9732-9746 reno. to NYC 1732-1746 in 1936. Of these, 1732-1734, 1736, 1739-1743 reno. to 6325-6327, 6329, 6331-6335 in 1951.

Note 31—GT 440-454 reno. to GT 3700-3714.

Note 32—NYC&StL 603, 605, 606 sold to National of Mexico in 10/1945, 1/1946. NYC&StL 601, 604, 607 sold to Akron Canton & Youngstown in 11/46, 5/47, 12/45.

Note 33—C&A 875-894 reno. to Alton (then GM&O) 4385-4394.

Note 34—Texas & Pacific 550-560 reno. to CRI&P 2309-2319 c. 1919.

Note 35—Southern 4765-4774 reno. to CNO&TP 6285-6294 in 1920.

Note 36—MC 7970-7979 reno. to NYC 1770-1789 in 1936, then to 6339-6358 in 1951.

Note 37—Wabash 1st 2213-2215, 2218, 2219 reno. to PM 1025-1029 in 10/1919, then to C&O 2364-2368 when that road acquired the Pere Marquette.

Note 38—NYC 5130-5133, 5110-5116 reno. to PM 1030-1040 c. 1920, then to C&O 2369-79. NYC 5100-5109, 5117-5129, 5134-5194 reno. to 1800-1809, 1817-1829, 1834-1894 in 1936. Of these, 1800-03, 05, 07-09, 17-20, 22-29, 34-42, 44, 45, 47, 48, 50-57, 1859-66, 68-74 reno. to 6359-6399, 6401-6408, 6410-6416 in 1951-1952.

Note 39—GT 455-479 reno. to GTW 3715-3739.

Note 40—IHB 401, 419, 411, 410, 421, 422, 406, 413, 400, 423 reno. to StLSF 4008-4016, 4032 in 1919-1920. #402-405, 407-409, 412, 414-418, 20 reno. to PM 1011-1024 in 1920, then to C&O 2350-2363 c. 1947.

Note 41—PRR 20006, 14, 18, 24, 23, 16, 25, 29, 35 reno. to Missouri Pacific 1317-1325 c. 20. PRR 20013, 15, 09, 08, 21, 07, 22, 11 reno. to StLSF 4000-4007 in 1919-1920. (20022 and 20011 were numbered MK&T 778 and 774 before going to StLSF). PRR 20034, 30, 20, 19, 31, 12, 28, 36, 37, 17, 10, 27, 26, 33, 32 to StLSF 4017-4031.

Note 42—GR&I 108-112 reno. to PRR 9627-9631 (class L-2s) in 1921.

U. S. R. A. Heavy 2-8-2 (Total 233)

April 1918 Order: Baldwin—For construction numbers see Table IV. See Note 43.

10 (#51433-51509)	3, 4/1919	Pittsburgh & Lake Erie 9510-9519
15 (51552-51621)	4/1919	Chicago Burlington & Quincy 5500-5514
5 (51650-51725)	5/1919	Fort Worth & Denver City 451-455

Alco (Brooks Works Order B-1493)

10 59720-59729	8/1918	Wheeling & Lake Erie 6001-6010 (Note 44)
10 59730-59739	8/1918	Central of New Jersey 850-859 (Note 45)
50 59740-59789	8, 9/1918	Chic. Milw. & St. Paul 8600-8649 (Note 46)

June 1918 Order: Alco (Brooks Works Order B-1493)

10 60345-60354	10/1918	Pitts. McKees. & Yough. 9580-9589
20 60355-60374	10/1918	Louis. & Nash. 1550-1569 (Note 47)
10 60375-60384	10/1918	Wheeling & Lake Erie 6011-6020 (Note 44)
15 60385-60399	10, 11/1918	Central of New Jersey 860-874 (Note 48)
5 60400-60404	11/1918	El Paso & Southwestern 390-394 (Note 49)

October 1918 Order: Alco (Schenectady Works Order S-1268)

5 61024-61028	3/1919	Pittsburgh & Lake Erie 9505-9509
5 61029-61033	3/1919	Pitts. McKees. & Yough. 9590-9594
4 61034-61037	3/1919	Chic. St. Paul, Minn. & Omaha 422-425
4 61038-61041	3/1919	Great Northern 3200-3203 (trans. from SP&S)
5 61042-61046	3/1919	Chic. Milw. & St. Paul 8650-8654 (Note 46)
45 61148-61192	3, 4/1919	Chic. Milw. & St. Paul 8655-8699 (Note 46)
5 61193-61197	6/1919	Elgin Joliet & Eastern 802-806 (Note 50)

Note 43—A total of 87 locomotives were originally ordered from Baldwin: 30 in April 1918 and 57 in June. These were to be allocated as follows:

10	Chicago Great Western
2	Elgin Joliet & Eastern
50	Erie
25	Missouri Kansas & Texas

However, the June order for 57 locomotives was cancelled and the remaining 30 were delivered as shown above.

Note 44—W&LE 6001-6020 renumbered to NYC&StL 671-690 c. 1951.

Note 45—CNJ reno. to Pittsburgh & West Va. 1050-1053 in 1945.

Note 46—CM&StP 8605, 08, 10, 11, 16, 20, 21, 31, 39, 45, 53, 74, 91, 79 reno. to 300-314 in 1939; rest of 8600's reno. to 315-399. These engines (8600-8649) were originally ordered as light 2-8-2, as were PMcK&Y 9580-9589.

Note 47—L&N 1550-1569 reno. to 1750-1769 c. 1921.

Note 48—CNJ 860-874 reno. to Erie 3200-3214 before delivery.

Note 49—EP&SW 390-394 reno. to Great Northern 3204-3208 c. 1920.

Note 50—EJ&E 802-806 reno. to Western Pacific 306-310 c. 1920.

U. S. R. A. Light 2-10-2 (Total 94)

April 1918 Order: Alco (Brooks Works Order B-1491)

50	#60010-60059	11, 12/1918	Southern 5200-5249 (Note 52)
5	60060-60064	12/1918	Chicago & Western Indiana (Belt of Chic. 20-24)
10	60065-60074	1/1919	Boston & Albany 1100-1109 (Note 53)
10	60075-60084	1/1919	Duluth Missabe & Northern 506-515 (Note 54)

	Baldwin—For	construction numbers see Table IV. See Note 51.
15	(52121-52224)	8-10/1919 Seaboard Air Line 485-499
4	52248, 79-81	9/1919 Ann Arbor 190-193 (Note 55)

Note 51—In addition to the 19 Baldwin locomotives shown, 56 more were originally on order: 18 for PRR, 12 for PCC&StL, and 26 for B&O. 30 were re-ordered as heavy 2-10-2's and 26 as 2-8-2's.

Note 52—Southern 5205, 5224, 5217, 5234, 5212 were rebuilt to 2-8-2 #4995-4999 in 9/30, 4/31, 10/29, 4/29, and 7/29, resp.

Note 53—B&A 1100-1109 reno. to Canadian National 4200-4209 in 1928.

Note 54—DM&N 506-515 became Duluth Missabe & Iron Range 506-515 in 1937.

Note 55—Ann Arbor 190-193 reno. to 2550-2553 in 1925, then to KCS 220-223 in 1942. SAL 485-499 renumbered 2485-2499.

U. S. R. A. Heavy 2-10-2 (Total 175)

April 1918 Order: Baldwin—For construction numbers see Table IV. See Note 56.

5	(51983-52005)	7/1919	Colorado & Southern 905-909
5	(51940-51982)	7/1919	Bessemer & Lake Erie 521-525
18	(52089-52227)	7-9/1919	PRR 7036, 7082, 7123, 7126, 7139, 7181, 7190, 7212, 7263, 7268, 7269, 7276, 7277, 7281, 7282, 7286, 7326, 7343, 8909
12	(52033-52088)	7-9/1919	PCC&StL 8044, 8184, 8196, 8208, 8227, 8263, 8316, 8337, 8360, 8371, 8379

	Alco (Brooks Works Order B-1492)	
5	#59813-59817	1/1919 Chicago & Eastern Illinois 2007-2011 (Note 57)
10	59818-59827	1, 2/1919 Chicago Burl. & Quincy 6300-6309 (ord. as NC&StL)
10	59828-59837	3/1919 Erie 4200-4209

June 1918 Order: Alco (Brooks Works Order B-1492)

15	60192-60206	2, 3/1919	Erie 4210-4224
----	-------------	-----------	----------------

October 1918 Order: (Brooks Works Order B-1500)

35	60948-60982	3, 4/1919	PRR 7909, 7910, 7916-7918, 7921, 7925, 7927, 7930, 7937, 7939, 7944, 7960-7962, 8140, 8144, 8147, 8149, 8162, 8164, 8215, 8223, 8231, 8253, 7104, 7265, 7283-7285, 7635, 8008, 8039, 8070, 8095
15	61133-61147	4/1919	PRR 8098, 8105, 8110, 8159, 8206, 8241, 8255, 8258, 8266, 8268, 8299, 8376, 8389, 8393, 8408
25	61198-61222	4, 5/1919	PRR 8425, 8794, 8895-8897, 8901-8906, 8912, 8914-8922, 8928, 8929, 9731, 9733

(Ord. B-1502)

20	60983-61002	4-6/1919	PRR 9737-9739, 9838, 9839, 9845, 9849, 9851, 9853-9859, 20001-20005. (Note 58)
----	-------------	----------	--

Note 56—Original order with Baldwin for 10 locomotives increased to 40 when the PRR engines were re-ordered from light 2-10-2's.

Note 57—C&E 2007-2011 renumbered to PRR (PCC&StL) 20039-20043 series c. 1920, then to 8940-8949 series.

Note 58—PRR 20001-20005 reno. to 8945-8949 series. Originally ordered as FW&DC.

U. S. R. A. 2-6-6-2 (Total 30)

April 1918 Order: Alco (Schenectady Works Order S-1260)

15 #59838-59852 1/1919 Chesapeake & Ohio 875-889 (Note 59)

Baldwin—For construction numbers see Table IV

5 (52055-52177) 8/1919 Chesapeake & Ohio 890-894 (Note 59)

10 (52178-52424) 8-10/1919 Wheeling & Lake Erie 8001-8010 (Note 60)—originally ordered as Chic. & West. Ind.

Note 59—C&O 875-894 renumbered to 1520-1539 c. 1925.

Note 60—W&LE 8001, 8002, 8003, 8009 reno. to NYC&StL 940-943 c. 1951.

U. S. R. A. 2-8-8-2 (Total 106)

April 1918 Order: Alco (Schenectady Works Order S-1261)

5 #59853-59857 2/1919 Virginian 900-904 (Note 62)

Baldwin—For construction numbers see Table IV

5 (52151-52251) 8, 9/1919 Norfolk & Western 2045-2049 (Note 63)

10 (52285-52450) 9-11/1919 Carolina Clinchfield & Ohio 725-734

26 (52371-52645) 11, 12/1919 Baltimore & Ohio 7145-7170 (Note 61)—First 15 orig. ordered for Virginian. Remaining 26 orig. ordered as Lt. 2-10-2.

October 1918 Order: Alco (Schenectady Works Order S-1266)

40 61073-61112 4, 5/1919 Norfolk & Western 2005-2044 (Note 63)

Alco (Richmond Works Order R-281)

20 61113-61132 6-8/1919 Virginian 701-720

Note 61—B&O 7145-7170 rebuilt to 2-8-8-0, by 1925.

Note 62—Virginian 900-904 renumbered to Norfolk & Western 2000-2004 in 1919.

Note 63—N&W 2014, 2029, 2035, 2042, reno. to AT&SF 1794-1797 c. 1943, then to Vgn. 736, 741, 742 in 1948. N&W 2021, 2022, 2026, 2015 reno. to AT&SF 1790-1793 c. 1945, then to Vgn. 738, 739, 737, 740 in 1948. N&W 2000, 2008, 2027, 2034, 2036, 2046 reno. to PRR 373-378. N&W 2030, 2020, 2025, 2041, 2013 renumbered Union Pacific 3670-3674 in 1943.

U. S. R. A. Light 4-6-2 (Total 81)

April 1918 Order: Alco (Richmond Works Order R-278)

10 #59310-59319 3/1919 Atlantic Coast Line 493-502 (Note 64)

Baldwin—For construction numbers see Table IV

20 (51801-52106) 6-8/1919 Baltimore & Ohio 5200-5219

October 1918 Order: Alco (Richmond Works Order R-282)—Orig. ord. June 1918

from BLW as 10 ACL plus 3 KCS

6 61057-61062 5/1919 Louisville & Nashville 240-245

7 61063-61069 5/1919 Atlantic Coast Line 1510-1516

Alco (Brooks Works Order B-1504)

3 61248-61250 8/1919 Atlantic Coast Line 1517-1519

25 61251-61275 8, 9/1919 Atlantic Coast Line 1520-1544

Alco (Brooks Works Order B-1506)

10 61276-61285 9, 10/1919 Baltimore & Ohio 5220-5229

Note 64—ACL 502 renumbered to 1500-1509 in 1919.

U. S. R. A. Heavy 4-6-2 (Total 20)

April 1918 Order: Alco (Richmond Order R-279)

10 59320-59329 3, 4/1919 Erie 2925-2934

Baldwin—For construction numbers see Table IV

10 (51802-51965) 6, 7/1919 Erie 2915-2924 (Note 65)

Note 65—Erie 2917 renumbered to 2945 by 1931.

U. S. R. A. Light 4-8-2 (Total 47)

April 1918 Order: Baldwin—For construction numbers see Table IV
15 (51601-51865) 5, 6/1919 Southern 1475-1489 (Note 66)

Alco (Richmond Works Order R-280)

10 59790-59799 4/1919 New York, New Haven & Hartford 3300-3309
10 59800-59809 4, 5/1919 Southern 1490-1499 (Note 66)

Oct. 1918 Order: Alco (Richmond Works Order R-283)

5 61418-61422 8/1919 Nashville, Chatt. & St. Louis 550-554

Alco (Richmond Works Order R-284)

7 61003-61009 11, 12/1919 Missouri Pacific 5301-5307 (Note 67)

Note 66—Southern 1484, 1488, 1489 renumbered to Alabama Great Southern 6692-6694 in 1920. Southern 1495-1498, 1475 renumbered to CNO&TP 6495-6499 in 1920.

Note 67—Missouri Pacific 5301-5307 reno. to 5321-5327 in 1939-40.

U. S. R. A. Heavy 4-8-2 (Total 15)

April 1918 Order: Alco (Brooks Works Order B-1495)

3 59810-59812 12/1918 Chesapeake & Ohio 133-135 (Note 68)

Baldwin

2 51869, 51881 6/1919 Chesapeake & Ohio 136-137 (Note 68)

Oct. 1918 Order: Alco (Brooks Works Order B-1501)

10 61047-61056 5/1919 Norfolk & Western 116-125

Note 68—Chesapeake & Ohio 133-137 renumbered to 543-547 c. 1925.

U. S. R. A. "Custom Built" Locomotives (Total 74)

All the following locomotives were ordered by the U. S. R. A. but built to specifications of the individual railroads:

June 1918 Order:

30 2-8-0 Phila. & Rdg. 1670-1699 BLW. #52396-98, 445-47, 94-98, 52521-24, 56, 57, 79-82, 52606-52614 10-12/1919

Oct. 1918 Order:

11	2-8-2	Cen. of N. J.	860-870	Alco (B-1518)	#61010-20	3, 4/1920
5	4-6-2	F. W. & Den. City	551-555	Alco (S-1296)	61070-72, 61416-17	1/1920
3	4-6-2	Kan. City Sou.	808-810	Alco (S- ?)	61518-20	10/1919
7	4-6-2	Texas & Pac.	707-713	Alco (B-1507)	61286-92	12/1919
18	2-10-2	Texas & Pac.	526-543	Alco (B-1508)	61398-415	12/1919

Locomotives Originally Ordered by Individual Railroads but Taken Over by U. S. R. A. Which Assigned Them

10	0-10-0	Chesapeake & Ohio	50-59	Alco (R-276)	59980-59989	1919 (Note 69)
15	2-6-6-2	Chesapeake & Ohio	860-874	Alco (R-275)	59965-59979	1917 (Note 70)
20	2-6-6-2	Hocking Valley	205-224	Alco (R-277)	60210-60229	1918 (Note 71)
25	2-8-2	Missouri Kan. & Tex.	836-860	Alco (S-1253)	59915-59939	10/1918
20	2-10-2	Boston & Maine	3000-3019	Alco (S-1317)	61956-61975	7/1920

Note 69—C&O 50-59 renumbered 130-139 c. 1925. C&O 860-874 reno. to 1460-1474 c. 1925. HV 205-224 reno. to C&O 1280-1299.

This last group of 90 locomotives not included in totals.

Table IV—Baldwin Construction Numbers

0-6-0					
B&O	350	51642	B&O	4582, 4583	51180, 51149
B&O	351, 352	51655-51656	B&O	4584-4590	51224-51230
B&O	353-357	51689-51693	B&O	4591	51282
B&O	358-362	51734-51738	B&O	4592-4595	51299-51302
B&O	363-365	51757-51759	B&O	4596-4599	51376-51379
B&O	366-368	51781-51783	PRR	20038	51432
B&O	369	51815	CRI&P	2300	51988
0-8-0			CRI&P	2301-2305	52013-52017
EJ&E	329, 330	51599, 51600	CRI&P	2306-2308	52040-52042
EJ&E	331-334	51622-51625	T&P	800-804	52043-52047
EJ&E	335, 336	51657-51658	T&P	805, 806	52072, 52096
IHB	300, 301	51702, 51703	T&P	807, 808	52097, 52123
IHB	302-305	51726-51729	T&P	809, 810	52143, 52144
IHB	306-309	51764-51767	HEAVY 2-8-2		
IHB	310-314	51786-51790	P&LE	9510-9513	51433-51436
IHB	315-317	51810-51812	P&LE	9514-9516	51473-51475
IHB	318, 319	51826, 51846	P&LE	9517-9519	51507-51509
MK&T	39-43	51847-51851	CB&Q	5500, 5501	51552, 51553
MK&T	44-47	51896-51899	CB&Q	5502-5505	51585-51588
MK&T	48	51923	CB&Q	5506-5514	51613-51621
KCT	34-36	51924-51926	FW&DC	451-453	51650-51652
KCT	37, 38	51944, 51945	FW&DC	454, 455	51701, 51725
Geo.	801, 802	51946, 51947	LIGHT 2-10-2		
LIGHT 2-8-2			SAL	485	52121
B&O	4500, 4501	49153, 49154	SAL	486-490	52158-52162
B&O	4502, 4503	49224, 49225	SAL	491-494	52184-52187
B&O	4504-4506	49288-49290	SAL	495-499	52220-52224
B&O	4507-4515	49380-49388	AA	190	52248
B&O	4516-4520	49395-49399	AA	191-193	52279-52281
B&O	4521-4533	49457-49469	HEAVY 2-10-2		
B&O	4534-4547	49526-49539	B&LE	521	51940
B&O	4548, 4549	49614, 49615	B&LE	522, 523	51958, 51959
L&HR	80-82	49616-49618	B&LE	524, 525	51981, 51982
L&HR	83	49678	C&S	905	51983
P&WV	1000-1002	49679-49681	C&S	906-909	52002-52005
LE&W	5540-5542	49682-49684	PCC&StL	8044, 8184,	
LE&W	5543-5554	49718-49729		8196, 8208,	
CCC&StL	6089-6093	49827-49831		8227, 8263,	
CCC&StL	6094-6096	50203-50205		8316	52033-52039
CCC&StL	6097, 6098	50314, 50344	PCC&StL	8337, 8360	52067, 52068
CCC&StL	6099, 6100	50369, 60370	PCC&StL	8371, 8379	52087, 52088
CCC&StL	6101-6106	50467-50472	PRR	7036, 7082,	
CCC&StL	6107-6109	50615-50617		7123, 7126,	
CCC&StL	6110-6113	50668-50671		7139	52089-52093
CGW	750	50672	PRR	7181, 7190,	
CGW	751-753	50729-50731		7212, 7263	52112-52115
CGW	754-758	50777-50781	PRR	7268, 7269,	
CGW	759	50803		7276, 7277,	
WP	321-325	50804-50808		7281, 7282	52145-52150
B&O	4550-4557	50809-50816	PRR	7286, 7326	52217, 52218
B&O	4558-4560	50936-50938	PRR	7343, 8909	52276, 52277
B&O	4561, 4562	50986, 50987	2-6-6-2		
B&O	4563	51030	C&O	890	52055
B&O	4564-4566	51075-51077	C&O	891, 892	52105, 52125
B&O	4567-4574	51108-51115	C&O	893, 894	52176, 52177
B&O	4575-4581	51142-51148			

Table V—U. S. R. A. Design Locomotives—1918 to Date

Eventual Owner (See Note)	0-6-0	0-8-0	Light 2-8-2	Heavy 2-8-2	Light 2-10-2	Heavy 2-10-2	2-6-6-2	2-8-8-2	Light 4-6-2	Heavy 4-6-2	Light 4-8-2	Heavy 4-8-2	Year Built
AC&Y		4	7										1921-44
Aliquipp & Sou. Ann Arbor		11			4*								1930-42
A&WP		1*	3	1									1919
ACL	10*+5	35	100*			20			45*+25				1918-44
B&O	40*	3							26*				1918-26
BAR						5*			30*+15				1918-22
B&LE													1928-31
B&M		22				10							1919
C of G													1922
CRR of NJ	10*			10*+75									1926
C&O		135					20*					5*+2	1918-25
Hocking Valley		10											1918-48
Pere Marquette		10*+15	30*+10										1926
C&E1			15*							6			1918-30
C&IM		2	3		4	4							1918-23
C&NW	35*	8											1927-37
C&W1 (BRC)					5*	10*							1919-27
CB&O	10*+15	10*		15*									1918
CGW	5*												1919-21
C1&L			10*										1918-19
CMS1P&P			5*	16									1918-29
CR1&P			200	100*									1918-23
CStPM&O	10*	10	20*										1918-25
Clinchfield	8*+4	8		4*+14									1918-28
C&S							10*+10						1919-23
Cone&BL		5				5*							1919
D&RGW								10					1936-41
D&TSL		4	9										1923
DM&N					10*								1925-36
E1&E		8*		15*+41									1919
ERIE		16*+55				25*				20*+11			1918-30
FEC		29	15										1924-26

Eventual Owner (See Note)	0-6-0	0-8-0	Light 2-8-2	Heavy 2-8-2	Light 2-10-2	Heavy 2-10-2	2-6-6-2	2-8-8-2	Light 4-6-2	Heavy 4-6-2	Light 4-8-2	Heavy 4-8-2	Year Built
FW&DC				5*									1919
Georgia		2*	7										1919-26
GI	5*		15*										1918-19
GTW	5*		25*+18						8				1918-29
GN													1918-19
GM&O: (C&A)			10*+5						10				1918-21
(M&O)	10*+13		37			125							1918-28
IC		70											1920-29
Indpls. Union		11											1922-30
KCT		5*											1919
L&HR			4*										1918
L&N		6*+20	18*+75	20*+145					6*+20		22		1918-30
MEC	2*		6*										1919
Mid. Val.			7								21		1923-44
MSP&SSM (WC)													1926-30
M-K-T													1920-23
MP	20	75	25*	170		10					7*		1919-29
I-GN		5											1927
StL&M		5		10									1926-27
Monongahela													1919-27
NCC&StL			10*+6										1918-25
NYC			10*+12								5*+8		1918-24
B&A		34*+150	84*										1919-21
CCC&StL		6											1918-24
Chic. Jct.		10*+45	25*										1918
CR&I-IHB													1919-25
K&M	14*	20*+31											1920
MC		3*											1918-26
P&E		10*+36	20*										1926
P&E		2											1919-44
P&LE		100											1918-19
PMCK&Y													1918
T&OC		5*	15*										1918-34
NYC&StL		25	10*+61										1918-20
LE&W		3*	15*										1918-44
W&LE	36	5*+20		20*					10*				

Eventual Owner (See Note)	0-6-0	0-8-0	Light 2-8-2	Heavy 2-8-2	Light 2-10-2	Heavy 2-10-2	2-6-6-2	2-8-8-2	Light 4-6-2	Heavy 4-6-2	Light 4-8-2 10*+39	Heavy 4-8-2	Year Built
NYNH&H		15											1919-24
GNE		20											1922
NYO&W		45									10	10*+12	1929
N&W		4*+20						50*+141					1919-53
NP								4					1919-23
PRR (incl. PCC&StL)	30*					130*							1918-19
GR&I			5*										1919
P&PU		10											1923-30
P&WV	2*		3*										1918-19
Rutland		2*	6*										1918
StL-SF	7*		33*	85									1919-30
SAL	10*		10*+117	115	15*						17*		1918-26
Southern		14*+42	15*+10	8	50*						3*		1918-28
AGS		4	10	43							5*		1919-26
CNO&TP		5*+12	10*+25										1918-28
NO&NE		1*											1918
TRRA	10*												1918-19
T&P	14*+8		11*										1919-23
UP	10*		20*										1918
OSL	5*		20*										1918-19
Virginian													1919-23
Wabash		45	20*					20*+15					1918-26
Wash. Term.	3*												1919
W of A		1*	4	1									1918-44
WP				5*									1919
*Original U.S.R.A. Loco's.	255	175	625	233	94	175	30	106	81	20	47	15	1856
Additional Built to Date	101	1200	641	724	4	169	0	180	78	17	100	37	3251
Total—All U.S.R.A. Design	356	1375	1266	957	98	344	30	286	159	37	147	52	5107

NOTE: The original U.S.R.A. Locomotives are listed above by owner at time of railroad's return to private ownership. Later locomotives are listed by original owner. Many locomotives have been sold to other roads since first acquired, as shown in notes to Table III.

Logging Railroads of Northern Minnesota

By FRANKLIN A. KING

In Minnesota, as in the neighboring states of Michigan and Wisconsin, the earliest logging activities were conducted along rivers upon which the logs could be floated to the mills. It was soon apparent, however, that if large-scale logging was to continue, new methods of transportation would have to be resorted to if timber beyond the reach of navigable streams was to be marketed. At first, the use of horses and sleighs was the answer—but this, at best, was only a temporary solution to the transportation problem, as activities could only be carried on during the winter and the length of economic haul was very limited. It was then when lumbermen turned to the use of logging railroads. No longer would an expensive sawmill have to lie idle because of an early thaw, which could put a quick end to sleigh hauling, or because of lack of water for driving logs on the rivers. The use of railroads eliminated all of this uncertainty and permitted the mills to operate the year 'round if desired.

In the *Duluth News Tribune* under the date of November 17, 1901, we find the following article:

"LOGGING ROADS BUILDING IN ALL DIRECTIONS . . ."

"Twelve or fifteen years ago the lumbermen of northern Minnesota probably would have smiled broadly if anybody had predicted that in 1901, or before, more than half of the logging would be done by railroad and the system would be pronounced 'The only way,' as a prominent lumberman expressed it yesterday. Fifteen years ago it was figured that timber very far from a water course, navigable for logs, was of comparatively little value as the only way it could be gotten out was by railroad, and this would be so expensive there would be little or no profit in the transaction. Now rivers are a secondary consideration. They are taken advantage of if they are handy, but in many cases the logs are handled by rail in preference to the river where both water and rail are available. Instead of making the lumber business unprofitable to get the logs out by rail, it has developed that there are greater profits in the business today than there were much of the time when river driving was the only means recognized for getting the logs to the mills. A logging road 10 miles in length 10 years ago was quite an institution, while now 25 to 75 miles excites no surprise."

Around the turn of the century approximately 750,000,000 feet of logs were handled in the Duluth district. Fully one-half of this amount was delivered either at the river bank or the mill, by rail. Figures for 1901 indicate the amounts of logs were handled either entirely or part way by railroad in this area as follows:—Brooks-Scanlon, 100,000,000 ft., Alger-Smith, 100,000,000 ft., Duluth & Iron Range R. R., 75,000,000 ft., Duluth, Missabe & Northern Ry., 50,000,000 ft., Eastern Minnesota Ry., 40,000,000 ft., Swan River Logging Co., 120,000,000 ft., Powers &

Simpson, 65,000,000 ft., Nestor Estate, 60,000,000 ft., Split Rock Lumber Co., 60,000,000 ft., Tower Lumber Co., 75,000,000 ft., Duluth & Northeastern R. R., 60,000,000 ft., Itasca Lumber Co., 70,000,000 ft.

The iron ore railroads of northern Minnesota, the Duluth & Iron Range and the Duluth, Missabe & Northern, had no intention of becoming a factor in the logging industry and, until around 1900, conducted this business mainly as an accommodation to the loggers. The demands, however, became more pressing on the part of the lumbermen, and the ore-carrying roads came to look upon the logging industry as a part of their regular traffic, especially during the winter when ore hauling was at a standstill.

At the beginning of the 1880's, the annual output of the sawmills on the Duluth-Superior harbor was less than five million feet. In 1902 a peak production of over 435,000,000 ft. of lumber was reached. By 1915 production fell below 100,000,000 ft. and the last sawmill shut down in 1925. From 1891 to 1924 more than seven billion feet of lumber were shipped out of the Duluth-Superior harbor.

It appears that the first logging railroad in northern Minnesota was constructed at Carlton, about 1888, by J. M. Paine & Company. The C. N. Nelson Lumber Company, Mitchell & McClure, the Swan River Logging Company and the St. Anthony Lumber Company were all operating logging railroads by 1892.

Northern Minnesota had an all-time total of more than 2500 miles of logging railroads, using 200 locomotives and some 3000 cars. Much of the original track on present day northern Minnesota lines was laid by logging railroads, including Duluth, Winnipeg and Pacific trackage north of Virginia, the Great Northern line from Swan River to Hibbing, and Northern Pacific trackage from Brainerd to Bemidji, and Bemidji to International Falls.

The last "logging railroad" in Minnesota was built by the Duluth, Missabe & Iron Range Railway in 1947. The 32-mile extension of the Wales Branch into the Superior National Forest timberlands required nine months to build and used 6000 tons of steel rails and 100,000 ties. The total cost was \$1,624,000.

During the past six years of operation the new line originated an annual average of 5000 cars of jack and white pine pulp, logs, poles and mining timbers. Unlike the temporary logging railroads of yesteryear, Minnesota's last logging line seems assured of many years of operation due mainly to the selective cutting practices now in effect in the area.

In the past, while trout fishing in the jungle-like environment back of the north shore of Lake Superior, this writer has run across signs of the old logging railroads which once operated in the area. One may stumble across a rusted angle iron and sometimes an old 60-pound rail—all signs of the right of way in many cases having vanished. Sometimes, though, by diligent search, one may note a cut or fill—trees up to eight inches in diameter growing where once the ground shook with the passing of the locomotive.

Lumber Companies Which Operated Logging Railroads, and Names of Roads so Operated

Alger-Smith Lumber Co. See Duluth & Northern Minnesota Ry.

Brooks-Scanlon Lumber Co. See Minnesota & North Wisconsin R. R.

Cloquet Lumber Co. See Duluth & Northeastern R. R.

Crookston Lumber Co. (Wilton & Northern R. R.) See Minneapolis, Red Lake & Manitoba Ry. Also operated logging railroads out of Kelliher, Minn.

Dunka River Lumber Co. Operated the Dunka River R. R., which extended approximately twenty miles southward from a point on the Duluth & Iron Range, near Allen Jet.

Estate of Thomas Nestor. A Michigan and Wisconsin firm that, in 1900, constructed a railroad from Lake Superior back along the Gooseberry River watershed, one branch going to Section 31-55-10, while the other extended toward the Split Rock River. The logs were rafted to the company's mills at Ashland, Wisc., and Baraga, Mich. The company operated two locomotives, one being a diamond-stack Mogul, with a copper firebox, and, according to Mr. J. App, a former D. & N. M. engineer, was exhibited at the Chicago World's Fair of 1893. This road operated until 1909.

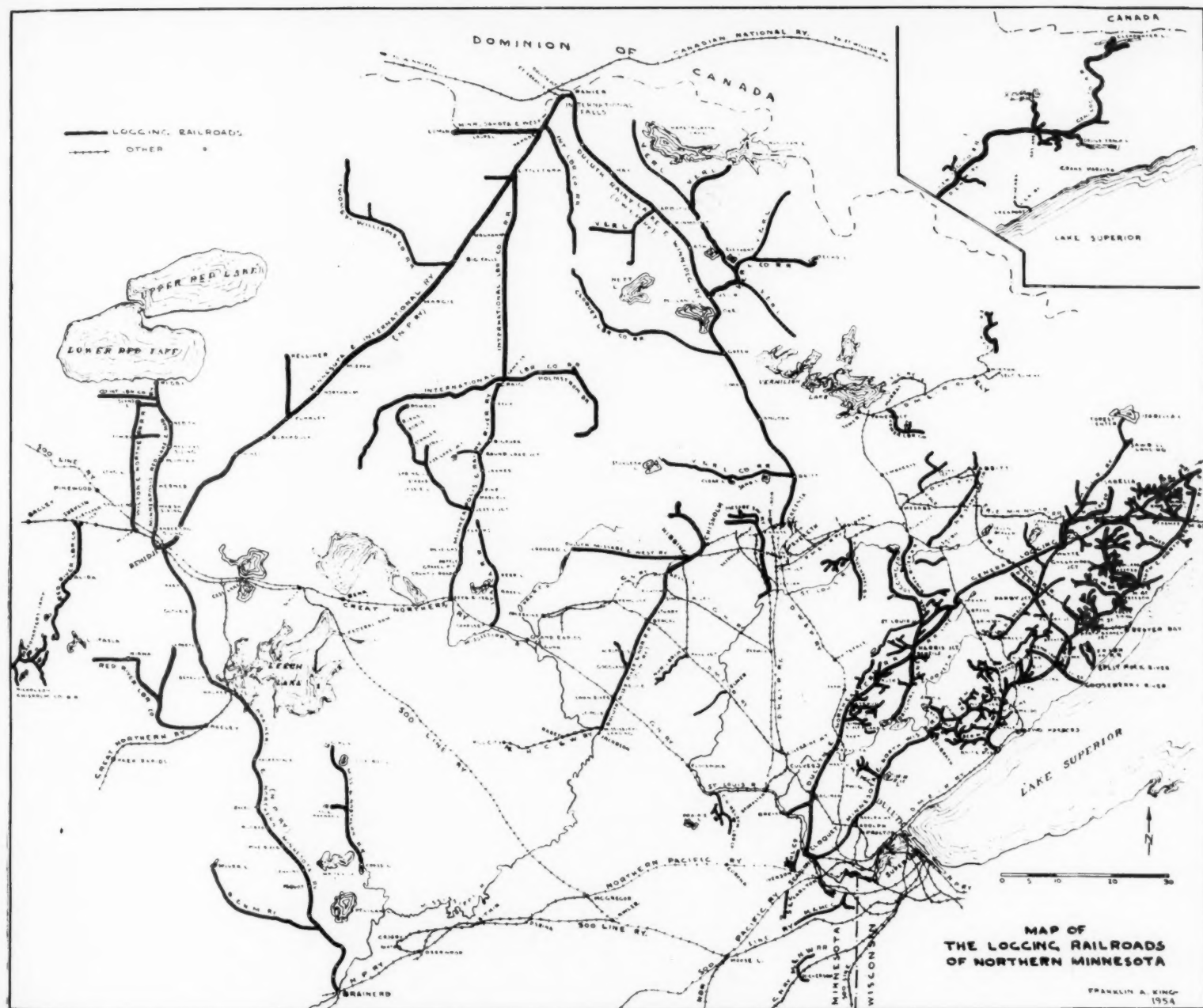
Fleming Logging Co. The Fleming logging road was built in the 1890's to carry logs from the woods to the town of Bruno, and to the St. Croix River. The road extended from Bruno, on the Great Northern Ry., to Yellow Banks, on the St. Croix.

General Logging Co. See Duluth & Northeastern R. R.

Itasca Lumber Co. See Minneapolis & Rainy River Ry.

International Lumber Co. This company carried on the logging and railroad activities for the Minnesota and Ontario Paper Co., and operated a large sawmill at International Falls, from 1909 to 1937. The principal logging line of the company extended from a point on the Minneapolis & International Railway, near Littlefork, to Craigsville. (Camp 29). The 22 miles from a point near Mile Post 10 to Camp 29, where the company maintained its headquarters and enginehouse, was probably the longest stretch of tangent track on any logging railroad. During 1917, the peak year of logging operations, the company owned eleven locomotives and 150 flat cars. Greatest railway mileage was in 1928, when 153 miles of main line and 70 miles of spurs were operated. In the late 1920's, Backus logged the Red Lake Indian Reservation and had a railroad operation there. All the logging operations of this company ceased by 1947. The International Paper Company was controlled by the E. W. Backus interests. (See Minnesota, Dakota & Western Ry.)

Mitchell & McClure Co. This former Michigan company built in Carlton County an extensive system of logging railroads, in the early 1890's, connecting at Barker with the Northern Pacific Railway. The company loaded 100 to 115 cars per day, averaging 7000 feet per car, and, between Barker and Pokegama Jet., had trackage rights over the Northern Pacific, paying thirty cents per loaded-car-mile. An ex-Pennsylvania R. R. 2-8-0 locomotive, class I (H1), handled the logging trains between Barker and Pokegama Bay. This engine had a boiler known



as the "Altoona" type and created quite a stir in this area, where it was known as the Pennsylvania "fantail."

The M. & M. line out of Barker had some notable bridges, which were constructed of logs in a unique manner; the bridge over the Blackhoof River contained some one and one-half million board feet of timber. The structure was over 100 feet high and 40 to 45 rods long. All logs were salvaged from the bridge when logging ceased. In 1899 this company constructed another line at Adolph, on the Duluth, Missabe & Northern Ry. (See Minnesota & North Wisconsin R. R.)

A line was built off of the Duluth & Iron Range R. R., in 1901, at Mile Post 39, and, in 1902, Mitchell & McClure sold their interests to Alger-Smith for \$750,000, the sale including the mill at Duluth, and thirteen miles of railroad, probably the line at Mile Post 39.

Mitchell & McClure Locomotives

No.	Builder	C/N	Date	Type	Cyls.	DD	Remarks
1	P. R. R.			2-8-0	20x24	50	Probably sold to D. & N. M. Ry. #8, in 1902. (Alger-Smith). No data.
2	Brooks			2-6-0			
3	Lima	397	1892	Shay	10x10	28	
4	Lima	417	1892	Shay	10x10	29	Sold to John Hein & Co., Tony, Wis.; to Little Rock Lbr. & Mfg. Co., Little Rock, Ark.; to Bemberg & Son Iron Works, Little Rock, Ark.; to Helena, Parkin & Northern R. R., Parkin, Ark.
5	Lima			Shay			No data.
6	Lima			Shay			No data.

McAlpine, John. Operated the former Mitchell & McClure line at Mile Post 39, on the Duluth & Iron Range.

Merrill & Ring Company. An ex-Michigan lumber concern that came to Duluth in the 1890's. It operated a short line off of the Duluth, Missabe & Northern, near Saginaw; also had a line on the north shore of Lake Superior, operated by their Split Rock Lumber Company. Lima Locomotive Company records show the following Shay type engines built for Merrill & Ring Lumber Co., and two (C/N 3344 and 3350) for Merrill-Ring-Wilson Co., which may have been a Canadian concern.

Road Lima		No.	C/N	Date	Cyls.	DD	Remarks
	1	2066	1-1908	10x12	29½		
	2	2031	9-1908	10x12	29½		
	2	3311	6-1927	11x12	32		To Comax Logging Co.
	3	2133	1-1909	11x12	32		
	3	3243	12-1923	11x12	32		To Comax Logging Co.
	4	2167	5-1909	11x12	32		
	4	3289	10-1925	11x12	32		To Comax Logging Co.
	5	3108	8-1920	12x15	36		To Columbia Construction Co.
	6	3285	12-1925	12x15	36		
	4	3344	2-1930	13x15	36		For M-R-W Co. To Salmon River Logging Co.
	5	3350	4-1936	13x15	36		For M-R-W Co.

Nelson, C. N., Lumber Co. About 1890 this company constructed a line from Gowan, on the Duluth & Winnipeg, to a point near the Northern Pacific Railway, at Corona. Logs were landed on the St. Louis River,

at Gowan, and floated to the company's mill at Cloquet. This company was purchased by Weyerhaeuser in 1894, for \$1,000,000, and this was one of the first big timber transactions in this area. It is possible, but not as yet verified, that this line connected with the N. P. at Corona.

No information is available regarding the company's locomotive No. 1. Its No. 2 was Lima No. 368, 1891, a Shay type with 8" x 12" cylinders, and 26" drivers. It probably went to the D. & N. E., at Cloquet.

Nicholson-Chisholm Company. This company operated a logging railroad in Clearwater and Becker Counties, from about 1903 to 1917. The cars and locomotives were shipped in over the Red River Lumber Company railroad, from Shevlin, on the Great Northern, to Mallard Lake. At this point, locomotives and other large equipment were dismantled for hauling in, and were then re-assembled, as Nicholson-Chisholm had no track connection with any other railroad. Logs were landed at Elbow Lake and were driven down the river and chain of lakes to Frazee, where the company operated its sawmill. Lima records show that its C/N 1815, 1907, was this company's No. 2. Its cylinders were 8" x 10"; drivers 26½" in diameter.

Northern Lumber Company. See Mesabe Southern Ry. During the period of 1908 to 1915, Mullery-McDonald operated a logging line for the Northern Lumber Co., out of Iverson, on the Northern Pacific Ry. In 1922 the Northern Lumber Co. constructed a line connecting with the D. M. & N., at Hull Jet. The N. L. Co. also operated the Swallow & Hopkins logging road, near Winton, Minn., in 1923. There is record of a Shay type engine on the N. L. Company's road; its No. 1, Lima No. 2276, 1910. Cylinders 11" x 12", drivers 32" in diameter.

North Star Lumber Company. Operated a logging railroad connecting with the Duluth & Iron Range R. R., at Whyte. Its No. 1 was Lima No. 1865, 1907, cylinders 7" x 12"; drivers 26½" in diameter.

Paine, J. M., & Company. It appears that J. M. Paine & Company operated the first logging railroad in this area; evidence seems to indicate that their railroad was built about 1888. The company operated around ten miles of line, extending from their sawmill, known as "Cap. Paine Mill," at Carlton, originally known as Northern Pacific Jet., into the pine in Silver Brook Township. The standard train consisted of eight Russell cars, and three trips daily were sufficient to enable the mill to turn out 120,000 feet per day. The road was taken up around 1900.

J. M. Paine & Co. Locomotives

Name (1st engine)?	Builder	Date	Type	Remarks
Avis	Porter		0-4-0T	Very old, probably built in the 1850's. Looks like an ex-C. M. & St. P. engine. Woodburning, tank locomotive, with a 4-wheel tender. May be an old N. P. engine. (Minnetonka?)
Lizzie	Lima #164	1887	Shay	10x10-28-50,000. Named after Lizzie Paine, daughter of J. M. Paine. Purchased new and later shipped to British Columbia. Records show it sold (a) Arlington & Northern Ry., Arlington, Wash.; (b) Ebey Logging Company, Arlington, Wash.; (c) P. Stegard, Seattle, Wash.; (d) Carlson Lumber Co., Mineral, Wash.

Powers & Simpson Company. See Duluth, Missabe & Western Railway.

Red River Lumber Company. Operated a line from Shevlin, on the G. N. Ry., and had another line connecting with the G. N., at Nichols, near Park Rapids. The company cut its last logs in Minnesota in 1915, and then moved to the Pacific Coast. Its one locomotive of which there is record was a Shay-gear engine, Lima No. 637, 1901, having 11" x 12" cylinders and 32" drivers. It was purchased from Nebagamon Lumber Company No. 4. (Wisc.)

St. Hilaire Lumber Co. See Minnesota, Red Lake & Manitoba Ry.

St. Anthony Lumber Co. The Mississippi & Northern R. R. was constructed by this company in 1890. The line extended from Cross Lake to Girl Lake, about 25 miles, and had no connection with any other road. Weyerhaeuser purchased the company in 1893.

Sauntry & Cain. In 1901, this company constructed a line from Atkinson, on the N. P. Ry., to Sand Lake, about seven miles. One rod locomotive was operated.

Scott & Holsten Lumber Co. In 1900, this company constructed a system of logging railroads into T54-12, from Drummond on the now-abandoned Duluth & Iron Range line from Waldo to Rollins. Sederberg & Gillis also operated over parts of these lines.

Shank, N. B., Logging Co. Between 1912 and 1915, this company operated a line that connected with the D. & I. R., at Mile Post X-14, on the now-abandoned Summit line, near Biwabik; also a line off the D. & I. R., near Mile Post 68. One saddle-tank locomotive, equipped with a separate tender, and D. & I. R. cars were the equipment used.

Split Rock Lumber Co. This company which was the woods-operating company of Merrill & Ring, started building a railroad in 1899, up along the Split Rock watershed. The road was in operation in 1900, and transported logs to the lake, where they were rafted to the mill at Duluth. There were ten miles of main line, and the motive power consisted of two Climax geared locomotives and one rod engine. In the beginning the line had no connection with any other railroad but, in later years, it may have been connected with the logging railroad owned by the Nestor estate.

Swallow & Hopkins Lbr. Co. Its railroad connected with the Duluth & Iron Range, near Winton. In 1923 the Northern Lumber Co., of Cloquet, was operating this line, whose mill was located at Winton. Lima records indicate that the company's No. 1 was Lima No. 2226, 1909, cylinders 11" x 12"; D. D. 32".

Swan River Logging Co. See Duluth, Mississippi River & Northern Railroad.

Tower Lumber Co. Its logging railroad was approximately fifteen miles long, and connected with the D. & I. R., at Murray. Its locomotive No. 1 was a Shay-gear engine. Its No. 2 was Lima No. 693, 1901, cylinders 10" x 12"; D. D. 29½". It was sold to the Peninsula Lumber Co., Columbia City, Ore., 1919; to Napavine Lbr. Co., Napaville, Wash.; to Cameron Lumber Co., Noon, Ore.; to Feazel Bros., Nehalem, Ore., 1936. This company also operated a short logging railroad from Pine Lake to Vermillion Lake, at the mouth of Bear Creek.

Trout Lake Lumber Co. This company operated a short section of railroad from their hoist on Elbow Lake to Black Bay, on Lake Vermillion. Its motive power consisted of one small tank locomotive which was brought up the lake from Tower on a scow.

Twomey-Williams Co. Operated approximately forty-five miles of logging railroad, connecting with the Minnesota & International Ry., at Big Falls. The railroad was built in 1923 and removed around 1937. Its motive power consisted of two steam locomotives and one 20-ton Plymouth gasoline locomotive.

Virginia & Rainy Lake Co. See Duluth, Virginia & Rainy Lake Railway.

Brainerd and Northern Minnesota Railway

The Brainerd and Northern Minnesota Railway was organized on May 9, 1892, with the charter dated May 16, 1892. The line from Brainerd to Walker, Minnesota, 59.13 miles, was completed February 25, 1896; line from Walker to Bemidji, 31.79 miles, was opened on December 17, 1898.

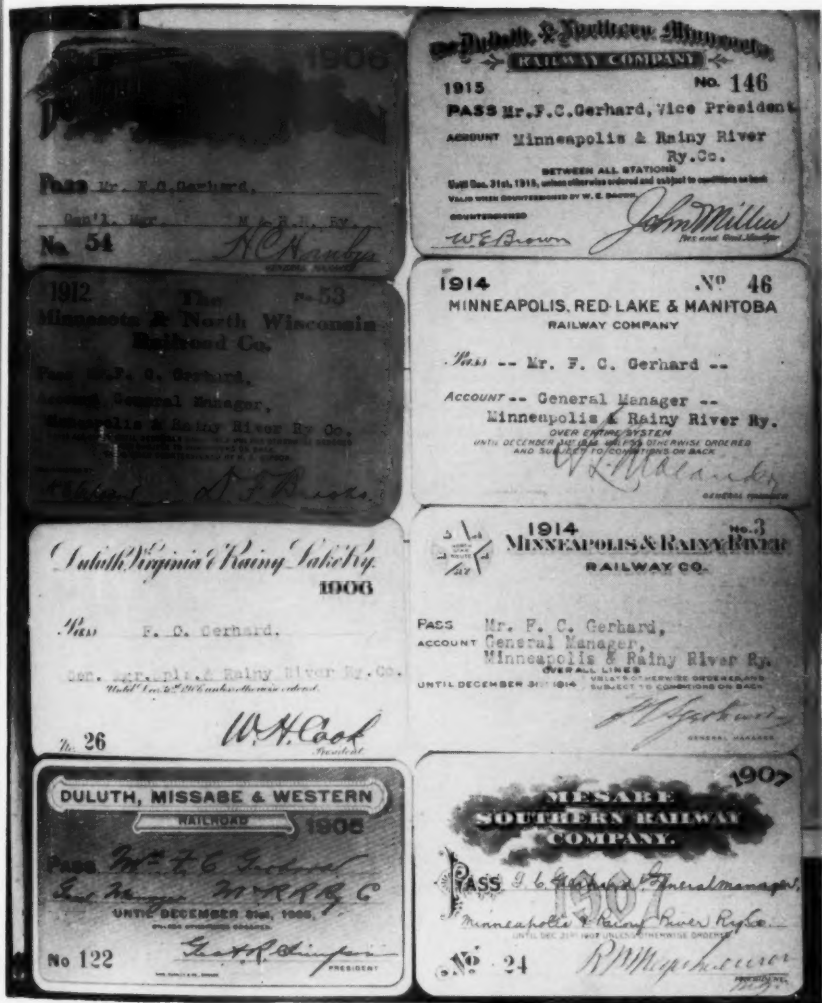
The officers of 1900 were as follows: President, E. A. Merrill; Vice-President, J. E. Carpenter; Treasurer, E. L. Carpenter; Secretary, W. F. Brooks.

For the year 1900 there were 12 locomotives, 3 passenger cars, 1 box car, 193 flat cars and 298 log cars. During 1899 the road hauled 347,864 tons of freight and carried 25,546 passengers and reported net earnings of \$89,897. The general offices were at Minneapolis, Minnesota. Around the turn of the century this road was undoubtedly the most important logging railroad in the state of Minnesota.

The Minnesota & International Railway Company was incorporated under laws of Minnesota, on July 16, 1900, and at this time took over the Brainerd and Northern Minnesota Railway. In 1907 the M. & I. reached the border, being pushed by the Northern Pacific, and influenced by certain stockholders who also were connected with the lumbering industry.

The main line of the M. & I. extended from East Brainerd to Northholm, Minnesota, 155.93 miles, with trackage rights from Northholm to Big Falls over the Big Fork & International Falls Railway Company, 38.30 miles. In 1919 equipment consisted of 24 locomotives and 547 cars. The road was controlled through stock ownership by the Northern Pacific Railway.

On October 22, 1941, the Northern Pacific Railway purchased, at foreclosure sale, the properties of the Minnesota & International Railway Company. On December 8, 1942, the I. C. C. authorized the Northern Pacific Railway to acquire the properties of the Big Fork & International Falls Railway Company; no consideration was made for the transfer—all stock was surrendered for cancellation and the company was dissolved.

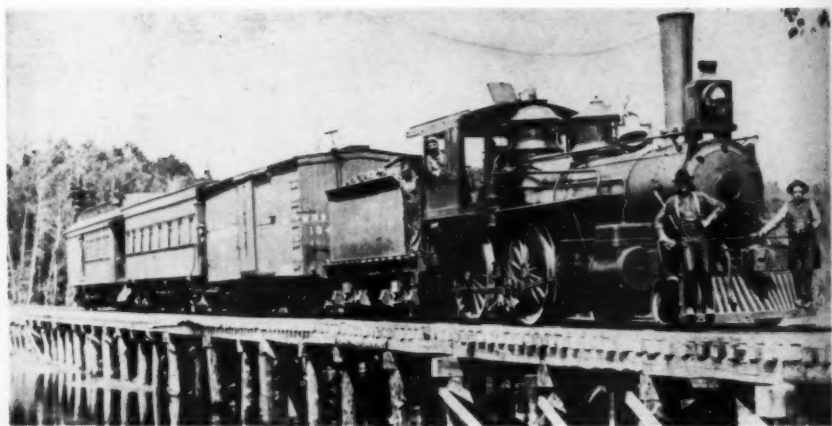


A group of annual passes from the old Minnesota logging roads. Franklin A. King collection



Courtesy Franklin A. King

Loading cars with a Jammer at Camp 17 (Colbrath) on the Minnesota & North Wis. R. R.
Note rails over trucks of jammer over which empty logging cars were run through the jammer.



Courtesy of Franklin A. King

Minneapolis and Rainy River Ry. mixed train on trestle over the Big Fork River at Wirt, Minn. Note star-shaped number plate on front of engine. Photo taken around 1912. Engineer—Martin Carlson, Fireman—Nels Peterson, Brakeman—John Hubert, Conductor—Rutter.



Photo courtesy of John Fritzen

"Old Lizzie" about ready to leave Mud Lake Camp for J. M. Paine & Company mill at Carlton. Man in center foreground is William Shields, foreman. Photo taken around 1890. This engine was later sold to a logging concern in British Columbia.



Courtesy of Franklin A. King

Duluth & Iron Range R. R. log train from Duluth & Northern Minnesota Ry. at Knife River to Duluth, Minn. 1913. Photo taken at Duluth, Minn., D. & I. R. Mile Post 1. Eng. #53, Schenectady—1892.



Courtesy of Franklin A. Kim

Russell car loaded with logs. Photo taken near Duluth on Mitchell & McClure logging Railroad in early 1890's

Duluth, Mississippi River & Northern Railroad

The first logging railroad in Itasca County was constructed in 1892, by the Wright & Davis interests, of Saginaw, Mich. This line, the D. M. R. & N. Railroad, extended from Mississippi Landing, on the Mississippi River, where the company had its headquarters, north to Swan River Jet., on the Duluth & Winnipeg Railroad.* From Swan River Jet. the line extended north to Hibbing, having been completed to that point in 1895. The road was later built to Chisholm, with branches running north and west to a point beyond Sturgeon Lake. Wright & Davis operated this railroad under their Swan River Logging Co. The logs were dumped into the Mississippi at Mississippi Landing and floated downstream to mills at Brainerd, Minnesota, the Twin Cities, and some going even further to mills in Iowa and Illinois.

On May 1, 1899, the Great Northern Railway Company purchased the D. M. R. & N., from the Mississippi River to Dewey Lake, Minn., 49.47 miles, and merged it into the Northern, now Mesabi, Division. The old logging road was straightened and rebuilt, and, where once ran the little Moguls and Ten-wheelers, pulling their rattling trains of Russell cars, now thunder the long, 180-car diesel-powered ore trains of the Great Northern.

Search of the records of the Swan River Logging Company indicates that the D. M. R. & N. had at least nine locomotives, numbered 1 to 9, about which little information is available. No. 2 was a Porter Mogul; No. 8, was Brooks No. 2967, 1898, a Mogul with 18" x 24" cylinders, 51" drivers, and weighing 110500 lbs., with 96000 lbs. on drivers; No. 9, Brooks No. 2968, 1898, a Ten-wheeler with 18" x 24" cylinders, 63" drivers, and weighing 127800 lbs., with 97800 lbs. on drivers.

Mesabe Southern Railway Company

The Mesabe Southern Railway Company was chartered in 1895, and construction started soon afterward. The road was owned by the Northern Lumber Company, of Cloquet, Minn. In 1902 the Weyerhaeuser interests absorbed the Northern Lumber Company, and Mr. R. M. Weyerhaeuser became manager of the railway.

The road extended from a point on the St. Louis River, in Township 56-18, (where logs were dumped into the river and floated to the mills at Cloquet) to Erwin, Minn., 33 miles, with branches from Haywire Junction to Klondike, 4 miles, and from Section House 2 to Dorsey, 3 miles; a total of 40 miles. The line was laid with 50-, 56- and 60-pound rail. Equipment consisted of 6 locomotives, 175 logging cars, and 2 cabooses. The line was probably taken up around 1912. The road had been nicknamed the "Smokey Southern," quite possibly due to the fact that there was no train dispatching system—the trains running on "smoke orders."

*The Duluth & Winnipeg was originally conceived by interests closely connected with the Wright & Davis people. After the D. & W. reached Swan River, giving them an outlet for their logging operations in Itasca County, the Wright & Davis people lost all interest in the Winnipeg extension.

Duluth, Missabe & Western Ry.

The Duluth, Missabe & Western was strictly a logging railroad whose main line extended from just west of Hibbing, Minnesota, to Crooked Lake, 22 miles, with 12 miles of branches. It owned three locomotives and 82 logging cars. The above figures were taken from 1907 records. The road was owned by the Powers & Simpson Logging Co., with George Simpson, President, and A. H. Powers, Vice President.

The following account of the road is given by George R. King, the writer's father:

"My first railroad job was in 1900 on the old Powers and Simpson logging road. I was helping to load logs at a camp on the line, about four or five miles from Crooked Lake, when Conductor Paddy Hines asked me one day if I'd care to go braking on the road and, of course, I jumped at the chance. Only an inexperienced man would have accepted such a job on an outfit like the Powers and Simpson. There were link and pin couplings, no air brakes on the train—only the engine was equipped with air. Time and one-half, the sixteen-hour law, etc., were at that time unheard of. If we went out to pick up a train of logs and had trouble along the way, we worked until we got the loads back to the landing at Crooked Lake. It made no difference if we didn't get back until the next day—we were expected to work right through. We were paid by the month, brakemen getting around \$35. The logs were held on the cars by chains—corner binds and wrappers. Each car was equipped with several feet of logging chain. The standard log was 16 feet long—other lengths being 12 and 14 feet. . . . Brakemen carried a 'hiekey,' an iron crank which had a square end that fitted into a socket on the brake shaft. Nobody set up many brakes because it only meant that you would have to stay out there and release them all afterwards. When coupling up the cars, one had to be extremely careful, especially at night, for quite often the logs would overhang the ends of the cars and would practically touch when the cars came together."

Minneapolis & Rainy River Ry.

The second logging railroad to be built in Itasca County was the Itasca Railroad of the Itasca Lumber Company. This line was first extended from Cohasset on the Duluth & Winnipeg, to the north some eighteen miles. Meanwhile, J. P. Sims, then general manager of the Itasca Lumber Company, was unable to negotiate what he considered a reasonable deal for land on the Mississippi River and, therefore, ordered his crews to take up the steel. The road was moved from Cohasset, and headquarters set up at Deer River, in 1897, and the rails were extended northward from there.

The Minneapolis & Rainy River Railway was incorporated in perpetuity, in Minnesota, on July 20, 1904, and purchased the property of the Itasca Railroad on August 1, 1904. In 1904 F. C. Gerhard, who

represented the W. T. Joyce interests of Minneapolis, bought the Itasca Lumber Company from J. P. Sims. The M. & R. R. Ry. was controlled by the Itasca Lumber Company. The Joyce people had extensive timber holdings and operated a large sawmill in Minneapolis. Gerhard was general manager of both the lumber company and the railway and was responsible for extending the line to its ultimate length.

In 1907 the road ran from the Mississippi River (White Oak Lake) to Big Fork, 31.69 miles; from Marcell Jet. to Marcell, 1.59 miles; from Jessie Jet. to Bass Lake, 17.84 miles, and from Whitefish Jet. to Whitefish, 1.6 miles, making a total of 52.72 miles. By 1911 the road had 97.86 miles of line (33.07 owned by the Itasca Lbr. Co.), with a total of all tracks of 110.29 miles.

Until 1900 the Itasca R. R. operated four locomotives; in later years, as the M. & R. R., there were twelve engines. In 1911 there were eleven locomotives averaging 47 tons each and developing an average tractive power of 17,080 pounds. For the same year there were eight boxcars, 92 flatcars, 274 log cars, four passenger cars and four miscellaneous cars. By 1924, there were five locomotives, two passenger cars, two combination cars, nine boxcars, 67 flatcars, one refrigerator car and five service cars.

A mill was built on Deer River, in 1904, and some of the logs were sawed there, the rest (the larger part) went down the Mississippi River to the mill at Minneapolis. At the peak there were some 2000 men employed in the lumbering operations and on the railroad. During the peak year the railroad hauled some 105,000,000 feet of logs. The lumber sawed at the Deer River mill was sent out from there over the Great Northern Ry.

The Minneapolis & Rainy Ry. emblem consisted of a circle around a star, with words "North Star Route" superimposed on the star. The road is sometimes spoken of as the "M. & R." but to the old timers of the area it is nearly always referred to as the "Gut & Liver Route," reference being to the cuisine of the logging camps along the line. The line never came very close to Minneapolis or Rainy River, although at times there was talk of extending it. It was hoped at one time that the road might become part of the established system of railroads in the area.

The line was a standard gauge and was laid with 56-, 60- and 65-pound rail and was listed by the Interstate Commerce Commission as a Class II road. The general office, in the beginning, was at Minneapolis but was later moved to Deer River where the operating office was located.

However, any ideas that the company may have had regarding remaining in the railroad picture vanished in the depression of 1929. Most of the timber had been cut and a good system of roads had been built into the area, thus there was little left to do but to apply for abandonment, which was granted on August 27, 1932. Shortly afterwards, the rails were picked up and sold for junk.

Locomotives of the Minneapolis & Rainy River Railway

(Roster from T. A. Brown, Master Mechanic, M. & R. R. Ry. 1920-1932).

No.	Builder	C/N	Date	Type	Cyls.	DD	WOD	Total	Remarks
1	Porter			2-6-0					ex-Itasca R. R. #1
2	Brooks	2952	1898	2-6-0	14x22	42	56000	66500	ex-Itasca R. R. #2 sent south.
3				4-4-0					
4				2-6-0				80000	ex-M&StL
5				4-4-0					ex-CM&StP #1206
6				4-4-0				90000	ex-NP
7	Dickson	37527	1905	4-6-0	18x24	56	90000	122000	
8*	Cooke	40221	1906	2-6-0	19x24	54	108000	124000	
9*	Cooke	40222	1906	2-6-0	19x24	54	108000	124000	
10*	Cooke	40223	1906	2-6-0	19x24	54	108000	124000	
11				4-4-0					
12				4-4-0			50000	75000	

* Similar to locomotives for the Panama Railroad.

Minneapolis, Red Lake and Manitoba Railway

The history of the Minneapolis, Red Lake and Manitoba Railway goes back to June 25, 1897, when the Department of Interior granted permission to the St. Hilaire Lumber Company of Minneapolis, Minnesota, to "construct a temporary railroad for the purpose of transporting timber to market from a point about two miles East of the township line of township 153 range 33, on the South boundary line of the retained Red Lake Indian Reservation Northward, a distance of about 8 miles to the shore of Red Lake, following as nearly as practicable the bank of Mud River, on the following conditions:

- (1) That the said Railroad will be only used for the purpose of transporting the saw logs of said lumber company from their logging camps to said Lake, and supplies from the lake to their camps and *not* for the general purposes of a Railroad; and that it shall be for *temporary* and not permanent purposes.
- (2) That the said St. Hilaire Lumber Co. will remove said road as soon as it has answered these purposes, and at their own expense.
- (3) That the said company bind themselves not to cut any ties on said ceded reservation or commit any waste or damage on same except what is necessary in the construction of said road-bed.
- (4) That this privilege may be revoked at any time by the Secretary of the Interior.
- (5) That they recompense the Indians for any damage said road may cause the Indians, said damages to be determined in such manner as the Secretary of the Interior or the Indian Commission may direct.
- (6) That said company will give Bonds in such sum as the Secretary of the Interior may direct for the performance of said conditions."

(Shevlin & Clarke, of Minneapolis, furnished bond for the railroad.)

The Red Lake Transportation Company was chartered on December 9, 1897, with a capital stock of \$100,000, to commence business on January 1, 1898, and to run for a period of 30 years. The general nature of its business "to be the construction, maintenance and operation of railroads, owning and operating steam and tow-boats for the transportation of passengers, freight and logs, also buying, owning, selling and dealing in lands and tenements and merchandise of all kinds." This company took over the St. Hilaire Lumber Co. railroad and completed ten miles of road from Red Lake Landing to Nebish, in 1899, and in 1900, constructed an additional six miles of road to Whitefish. On February 12, 1903, the Red Lake Transportation Co. acquired title for a permanent right of way from the Government for their railroad. By 1900, the company owned two locomotives and 32 cars, including one caboose; 35-pound rail was used. The Red Lake Transportation Company line had no connection with any other railroad and the locomotives and other equipment were brought up the Red River and across Red Lake by boat.

The Minneapolis, Red Lake and Manitoba Railway Company was incorporated in Minnesota, on June 15, 1904, and on June 28, 1904, took over the property of the bankrupt Red Lake Transportation Co. The amount of capital stock was \$100,000 and the officers were as follows:—President Chas. A. Smith; V. P., Chas. M. Amsden; Secretary, Andreus Ueland; Treasurer and General Manager, A. L. Molander.

Grading from Nebish to Bemidji was started in December of 1904. A survey was also made for extending the road to Minneapolis and to Winnipeg, but nothing ever materialized in this respect—the road having had its hands full trying to make ends meet with only the 33.5 miles of line from Bemidji to Redby. Running parallel, and a few miles west of the M. R. L. & M., was the logging railroad of the Crookston Lumber Company. This road, the Wilton & Northern, extended from Wilton, on the Great Northern Ry., to Island Lake, 24 miles. Due to a disagreement over crossing rights with the Soo Line, near Scribner, the Crookston Lumber Co. took up their road and constructed a new line from Island Lake east to the M. R. L. & M. and shipped the logs out that way to their mill at Bemidji.

The road enjoyed a brief touch of prosperity during the logging of the Reservation, but later, when lumber shipments from the mill at Redby did not come up to expectations and pulpwood was shipped out by truck, economy moves were made, including the running of a gas-electric car, but these only served to postpone the inevitable for a few years. The road applied for abandonment in 1935, permission not being granted at that time. In May, 1938, the I. C. C. gave the "green light" to abandonment—thus bringing to an end the affairs of one of the last of the colorful logging roads in Minnesota.

Locomotives of the Minneapolis, Red Lake & Manitoba Ry.

No.	Builder	C/N	Date	Type	Cyls.	DD	Remarks
1				2-6-0			From Hicks Co.?
2				0-4-0T			ex-Red Lake Transportation Co. #2. Formerly on Chicago Elevated?
3	Porter			2-6-0			ex-R. L. T. Co. #3. To Crookston Lbr. Co.
4	Baldwin	37568	1912	4-6-0	17x24	56	Purchased new.
5	Baldwin			4-6-0			ex-Great Northern Ry.

There is some evidence that the R. L. T. Co. had a locomotive No. 1, said to have been destroyed in an engine house fire and, therefore, never saw service on the M. R. L. & M. Ry.

Minnesota and North Wisconsin Railroad

The Minnesota and North Wisconsin Railroad was chartered on Feb. 3, 1898, and, in 1899, constructed five miles of road from Nickerson, on the Eastern Minnesota Ry., to Lake Graham, Minn., and six miles of line from Nickerson to Nemadji, Minn., making a total of eleven miles of road. (The E. M. Ry. was later absorbed by the Great Northern).

The officers in 1900 were as follows:—President, D. F. Brooks, of St. Paul; V. P., M. I. Scanlon; Treasurer, L. R. Brooks; Supt., A. S. Brooks, all of Minneapolis; and Chief Engineer, J. P. Keyes, of St. Paul.

In 1899 there were two locomotives and 35 cars. Rail was 48- and 65-pounds. The road was controlled by the Brooks-Scanlon Lumber Co.

Around 1900 the railroad moved to Scanlon, Minn., where the Brooks-Scanlon Lumber Co. constructed a large sawmill. By 1907 the main line extended northeasterly from Scanlon to Corolan, Minn., a distance of 44.5 miles, with branches from Alden Jct. to Alden Lake, 3.5 miles; Gallagher Jct. to Gallagher Lake, 1 mile; Adolph Jct. to Adolph, 1.2 miles; and from Sucker River to Sec. 13 T 52 & R 13—5.10 miles; making a total of 55.30 miles of railroad operated. The weight of rail used was 56 pounds.

It should be mentioned that the Mitchell & McClure Co. had constructed, in 1899, a twelve-mile logging railroad from Adolph, on the Duluth, Missabe & Northern Ry., to Wild Rice Lake, in Township 51-15, with a branch extending to Caribou and Moose Lakes. After the Mitchell & McClure Co. ceased operations, their twelve-mile road was purchased by the Minnesota & North Wisconsin Railroad, and was used to form a part of its main line.

In the *Duluth News Tribune* for Nov. 28, 1902, ran the following account of a proposed extension of the road:

"Definite information as to the plans of the Minnesota & North Wisconsin road has been obtained, but its future after the logging industry on the line is exhausted is for time to tell.

"The road now extends from Scanlon to a point about six miles from Two Harbors, but it is not the intention to extend the line to that town. The road will run northeasterly from its present eastern terminus and cross the D. & I. R., about twelve miles above Two Harbors.

"The Brooks-Scanlon Lumber Co. owns a great deal of timber east of the Iron Range road and the M. & M. W. road is to be extended into it as supplies for the mill may demand.

"The ultimate length of the M. & M. W. will be about 100 miles of main line. This is remarkable for a road which is built purely for logging purposes. It is of standard gauge and the present equipment consists of eleven locomotives and 250 cars. The general business of the road aside from the traffic is said to be surprisingly big. Speaking of the future of the road a railroad man said yesterday:—

"The M. & N. W. seems destined to be a local line for general traffic purposes if the owners see fit to continue its operation after the timber is all delivered. I have heard that, if the Duluth & Northern Minnesota does not extend to the Canadian border through the Gunflint region, then this line will. It is expected that the Port Arthur, Duluth & Western will extend to a connection with the Iron Range road next year, but everything is still in the air as regards projects that will give communication between Duluth and Canadian north shore points."

The M. & N. W. never did build the proposed extension although both the Duluth & Northern Minnesota Ry. and the General Logging Co. afterwards built into this area.

Records of 1907 indicate that there were eleven locomotives, one passenger car, twenty flatcars, and 160 logging cars.

By 1909 most of the timber was gone and the last log was cut in the fall of that year. One year later the entire mill at Scanlon was being dismantled. At the time of its construction the mill was one of the largest in the world and cut 105,000,000 feet of lumber in 1905, the record year.

From 1909 to 1912 the railroad was operated by the Johnson-Wentworth Lumber Co., of Cloquet. In 1911 the railroad abandoned 19.60 miles of line, leaving only the main line from Scanlon to Alden Jet., 34.5 miles, and the D. M. & N. connection from Adolph to Adolph Jet., 1.2 miles. There were only three locomotives, 16 cars and one caboose in use at this time. The road was abandoned around 1912.

At the height of their operations the Brooks-Scanlon interests employed 1500 men. It is interesting to note that Brooks-Scanlon cut the record-breaking section in Minnesota; Section 35-53-13, which contained 33,000,000 feet of pine.

Some old railroad maps indicate that the Brooks-Scanlon road connected with the Duluth & Northern Minnesota Ry., up near the headwaters of the Sucker River; this was not the case, however. Actually, the M. & N. W. R. R. Hurd Branch used part of the roadbed of the abandoned D. & N. M. Ry. Higgins Branch; also, the D. & N. M. Mud Branch used part of the M. & N. W. Sucker River Branch, connecting with the abandoned grade at Section 13 T 52 and R 13.*

*See Map showing Alger-Smith and Brooks-Scanlon Logging Railroads near Knife River.

Duluth & Northern Minnesota Railway

The Duluth & Northern Minnesota Ry. was chartered on May 31, 1898, under the laws of Minnesota.

Regarding the coming of this road, the *Duluth News Tribune* of May 13, 1898, gave the following account:—"ALGER ROAD TO BE BUILT." Continuing, the article reads, "Duluth is to have a new railroad to be known as the Duluth and Northern Minnesota. Surveyors are now in the field and within 30 or 40 days the work of grading the line will be in progress . . . The promoters of the Duluth and Northern Minnesota R. R. Co. are no less a firm than Alger, Smith & Co., the well-known Michigan lumbermen. Mr. M. S. Smith, of the company, is president of the new railroad company, and is a prominent banker in Detroit. General Alger, of the lumber company, is the present Secretary of War. The work of getting the railroad under way has been conducted largely by John Millen, a Detroit capitalist and a man that has long been connected with Alger, Smith & Co."

During 1898, 7.5 miles of road were completed from Knife River into the woods. For the same year there were 2 locomotives, 9 flat and 91 other cars. The general offices were originally in Detroit, Michigan, but were later moved to Duluth, Minnesota.

The officers in 1900 were as follows:—President, R. A. Alger, of Detroit; V. P. & G. M., John Millen, of Duluth; Treas. & Aud., G. H. Stalker, of Detroit; Secretary, J. C. McCall, of Detroit.

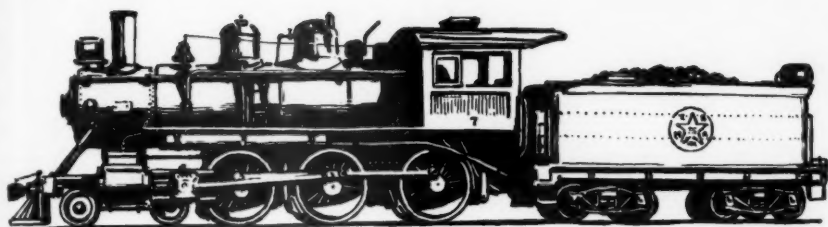
In 1899 there were 15 miles of track, and motive power consisted of two Baldwin locomotives of 35 and 37 tons. About this time the road purchased a steam log loader of the Cody type for use in loading cars on the line. This loader was capable of loading about 30 cars per day with one gang of men, whereas under the old system it required three gangs and three teams to load that many cars in a day.

By 1901 the line extended northward from Knife River, a distance of 46 miles, and, in 1904, it was completed to Mile Post 73. The building of this road had a very important effect on the timber industry in Duluth for, in addition to handling its own timber, it hauled logs for many of the other lumber companies at the head of the lakes.

The road crossed many fine trout streams and it is interesting to note the advertisement which ran in the *Duluth News Tribune* for May 14, 1908:—"FISHING EXCURSION, SUN., MAY 17, via DULUTH & NORTHERN MINNESOTA RY."

"Special train connecting with Duluth & Iron Range leaving Duluth 7:45 a.m. Returning 6:45 p.m. Stopping at Knife River, Stewart River, Encampment River, Gooseberry River, Split Rock River, Beaver River and Schauff Lake. Fine fishing at any of these points."

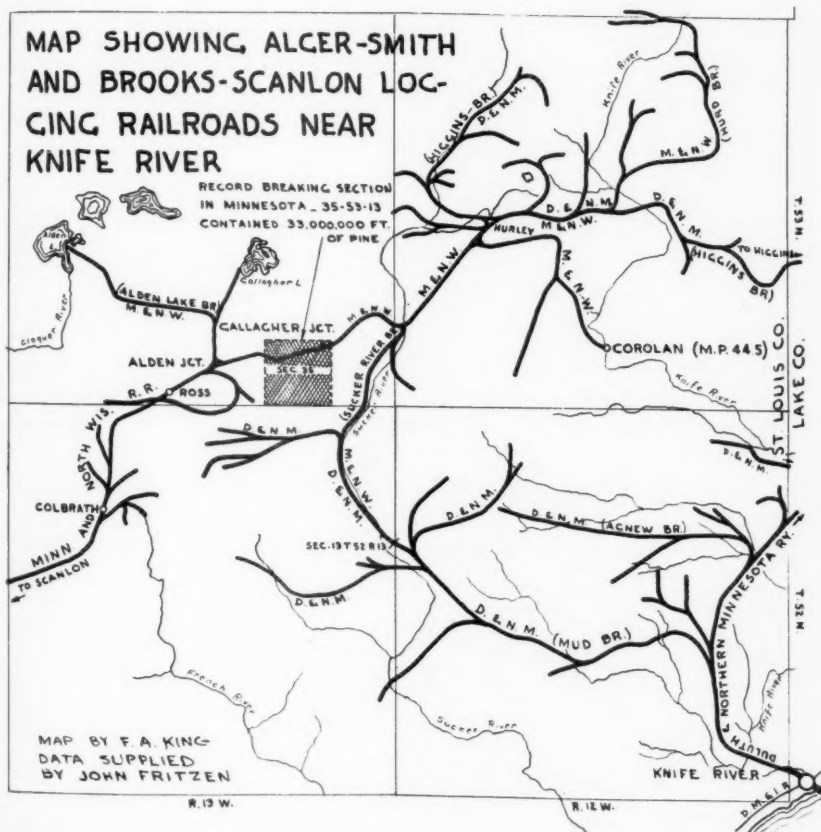
By 1909 the road was advertising passenger service to Finland, Minnesota, where a stage line made connections for many lakeshore points. The road was now handling 6 to 8 trains of logs to Knife River daily. The pulpwood dock at Knife River was constructed during this year. During 1910 the steel was pushed to the Manitou River and the

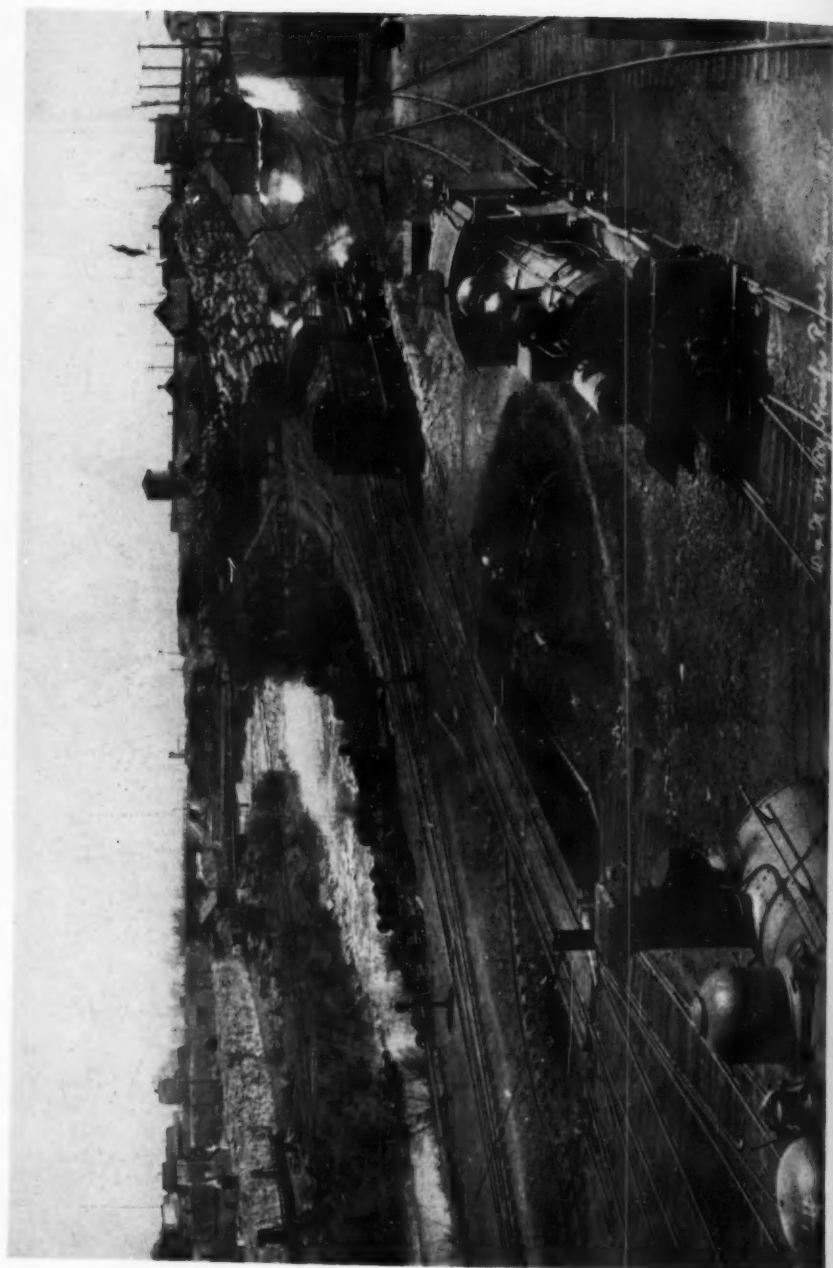


F. A. KING

Drawing by Franklin A. King

Minneapolis & Rainy River #7. This engine was a favorite among the enginemen on the old "Gut and Liver Route."





Duluth & Northern Minnesota Ry. yard at Knife River, Minnesota, 1915. Engine 2101 they owned. Linn

Courtesy of Franklin A. King

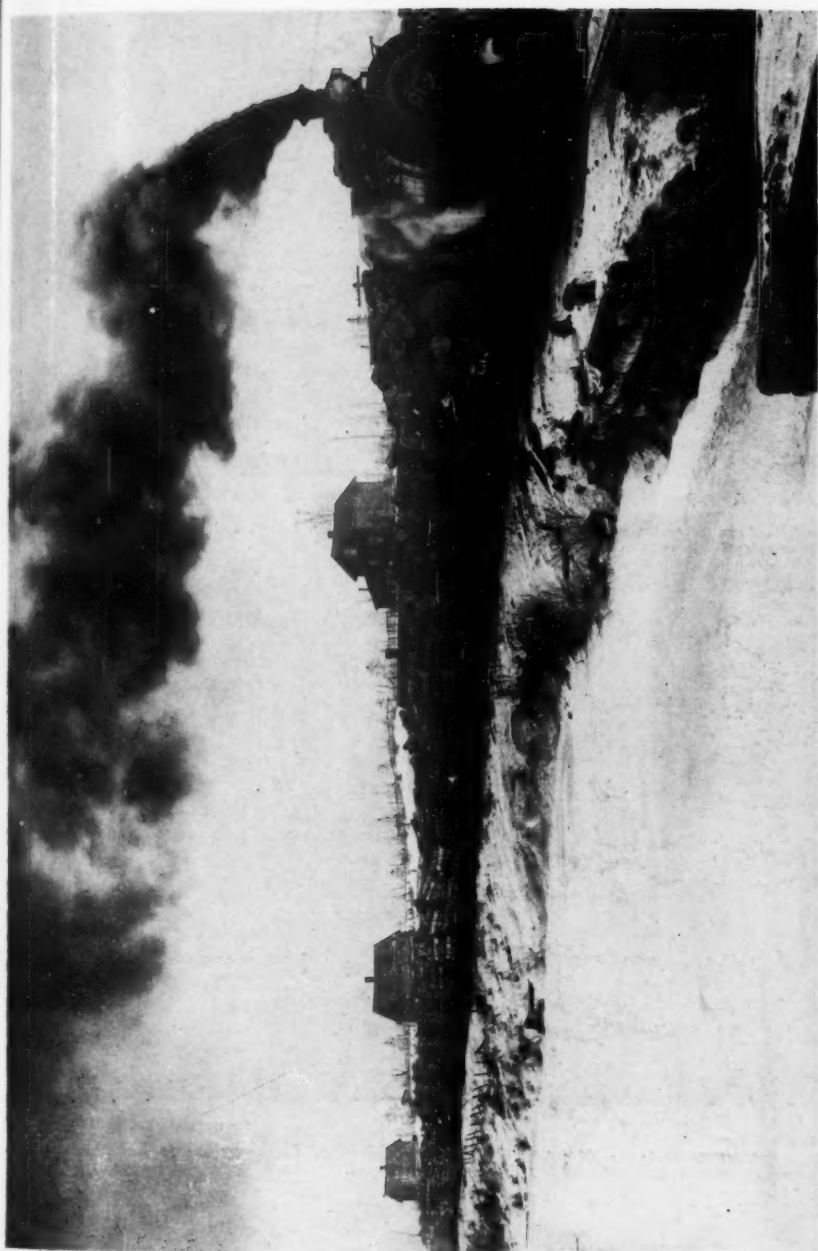
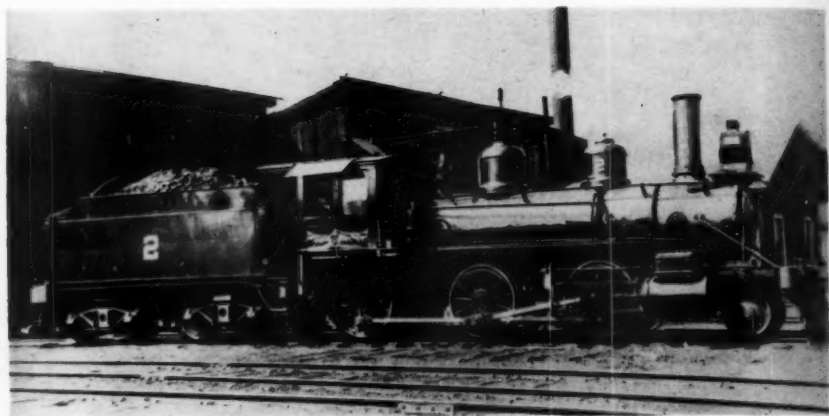
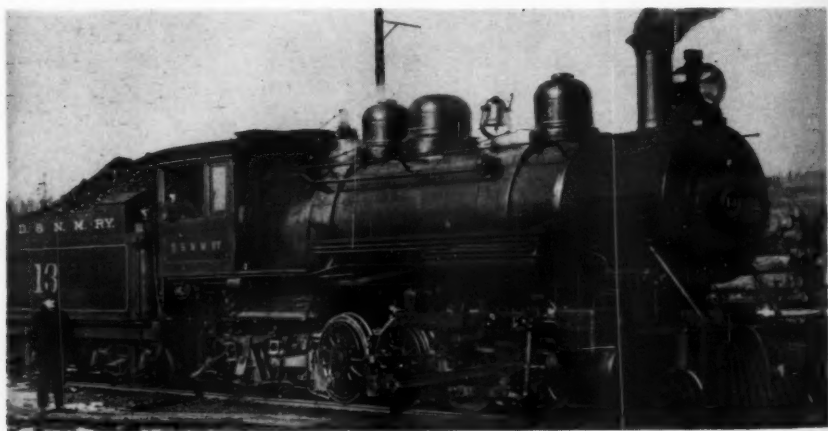


Photo Courtesy of Safety & Welfare Dep't., Duluth, Missabe & Iron Range Ry.
Duluth & Northern Minnesota Railway logging train near Knife River, Minnesota. Engines 13 and 14 could handle trains of 45 loads of logs.



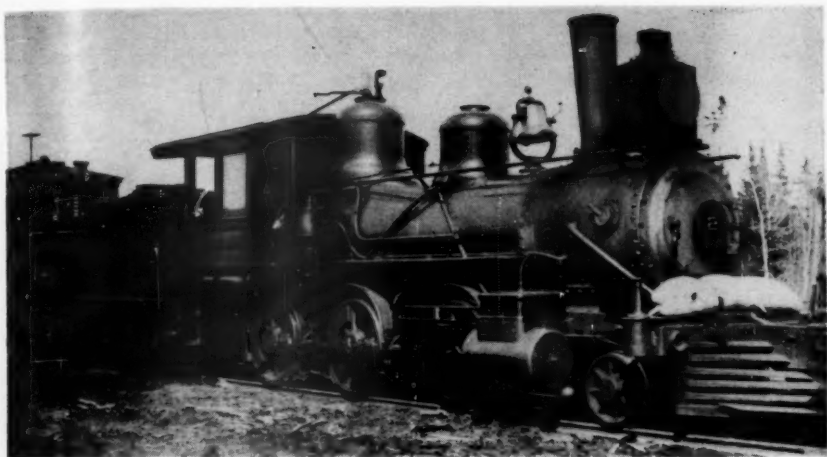
Courtesy of Franklin A. King

Duluth & Northern Minnesota Ry. No. 2 at Knife River, Minnesota. Ex. Duluth & Iron Range R. R. No. 3. Now on permanent exhibition at Two Harbors, Minn. Baldwin 1883.



Courtesy of Franklin A. King

Duluth & Northern Minnesota Ry. #13 at Knife River, Minnesota, 1918. Engines 13 and 14 were undoubtedly the heaviest rod engines to be built for any Minnesota logging road.



Courtesy of Franklin A. King

Mitchell & McClure engine #2, Brooks. Photo taken near Duluth, Minnesota in the 1890's. Note sacks of feed on pilot beam.

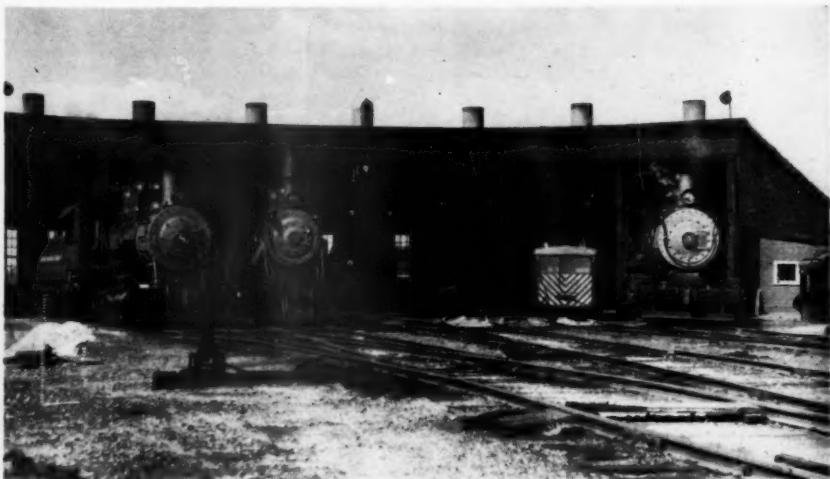


Photo by Franklin A. King, 1946

Minnesota, Dakota & Western Ry. engine house at International Falls, Minnesota. Note three-way stub switch in foreground.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

road was advertising passenger service to Cramer, Minnesota. In 1911 the main logging operations were at Finland, Lax Lake, and Maple, and during 1912 to 1915 they moved up to Cramer. From 1916 until the end of logging, the big operations were in Cook County around Cascade. By 1917 the main line reached Mile Post 99.25; 1919 was the last year of logging.

During the last years of its operation the independent logging companies accounted for a substantial portion of the business over the line and pulpwood shipments were heavy. Most of the pulpwood was transferred to lake steamers at the dock at Knife River and shipped to paper mills down the lakes. Prior to 1903, Alger-Smith rafted great numbers of logs to their mills at Duluth but, after this date, almost all of their log supply came in by rail, being turned over to the Duluth & Iron Range R. R. at Knife River.

In 1911 there were 11 locomotives, including one Lima geared engine. The 10 rod engines averaged 54 tons each and developed an average tractive effort of 22,048 pounds. For the same year there were 4 box cars, 47 flat cars, 8 coal cars, 375 logging cars, 2 passenger cars and 16 company service cars. By 1920 equipment consisted of 8 locomotives, one passenger car, one combination car, 2 box cars, 53 flat cars, one stock car, 8 coal cars, one refrigerator car, 384 logging cars, 9 cabooses and 36 service cars.

The road was laid with 45-, 56- and 60-pound rail. The company constructed a total of over 350 miles of spurs during its twenty years of existence and, as the steel was pushed further north, the older spurs were pulled up and the rail relayed at the site of new logging operations.

It was the fond hope of Vice-President John Millen to extend the road to connect with the Port Arthur, Duluth & Western Ry., at Gunflint, and thus create a through route between Duluth and the Canadian cities of Fort William and Port Arthur. So serious was thinking along this line that the company originally considered ordering six Mikado type locomotives to handle freight traffic on the proposed extension. Only two Mikados were subsequently ordered from Baldwin. After Millen's death the Algernons' lost whatever interest they may have had in the Canada extension, for they were planning to invest in a much more certain venture—the automobile industry in Detroit.

In 1921 the road was discontinued and the northern end of the line, including the rails on the rest of the road, were sold to the General Logging Company of Cloquet, Minnesota. On May 14, 1923, Duluth & Northeastern engine No. 21 left Cloquet with a train consisting of one coach and five flat cars and went up to the end of the Duluth & Northern Minnesota Ry., at Cascade, to begin the job of taking up the steel on the branches between Cascade and Mile Post 69½, at which point the mainline was broken. The mainline steel between Mile Post 69½ and Knife River was removed by November 30th, 1923. D. & N. E. engines Nos. 2 and 20 were also used on the dismantling job.

Locomotives of the Duluth & Northern Minnesota Ry.

(Data supplied by Mr. J. App, former locomotive engineer on the D. & N. M., and Mr. Charles E. Fisher, of the R. & L. H. Society).

No.	Builder	C/N	Date	Type	Cyls.	DD	Remarks
1	Baldwin			2-6-0	16x24		From Alger-Smith logging road in Mich.
2	Baldwin	6649	1883	2-6-0	16x24	52	From D&IR #3 in 1899. See note.
3	Baldwin			2-6-0	16x24		ex-I. C. engine. Scrapped 1909.
3	Baldwin	33338	1909	4-6-0	19x26	56	Sold to Escanaba & Lake Superior #15.
4	Baldwin			2-6-0	18x24		ex-AT&SF. Wagon top boiler.
5	Baldwin			2-6-0	20x24		ex-AT&SF. Straight top boiler.
6	Baldwin			2-6-0	18x24	56	ex-I. C.
7	Baldwin			2-6-0	20x24		ex-AT&SF.
8	P. R. R.			2-8-0	20x24	50	From Mitchell & McClure #1, 1902. Sold to I. X. L. Co., Hermanville, Wisc.
9	Baldwin			2-8-0	20x24		ex-AT&SF. Sold to road in So. Dakota.
10	Baldwin	29645	1906	4-6-0	19x26	56	Sold
11	Baldwin	29721	1906	4-6-0	19x26	56	Sold to E&LS #16.
12	Baldwin	32166	1907	4-6-0	19x26	56	
13	Baldwin	39664	1913	2-8-2	20x28	51	Sold to Lake Superior & Ishpeming R. R. Class MK-2.
14	Baldwin	39665	1913	2-8-2	20x28	51	Same as #13.
101	Lima		1908	Shay	12x15	36	To Kendell Lbr. Co., Crellin, Md. In 1929 sold to Stanley Coal & Pres-ton Ry.

#2. Repurchased by Thirty Years Veterans Association of the D. & I. R., in 1923. On permanent exhibition at Two Harbors, Minn.

Some of the above Moguls, shown as being former Santa Fe engines, may have been originally on the G. C. & S. F., whose records show the sale of a number of 2-6-0's, but do not indicate the purchaser.

Duluth & Northeastern Railroad

The Duluth & Northeastern Railroad Co. was incorporated under laws of Minnesota, on Sept. 10, 1898. In the beginning, the road was owned by the Duluth Logging & Contracting Co. and extended from Hornby, on the Duluth & Iron Range Railroad, to Island Lake, 27.5 miles, with 10 miles of branches. The logs were hauled to Island Lake, where they were dumped and then floated down the Cloquet and St. Louis Rivers to the mills at Cloquet. At this time, the road had headquarters and a three-stall enginehouse at Rush Lake. Records for 1900 indicate that there were three locomotives and 78 cars.

The officers in 1900 were as follows: President, F. Weyerhaeuser, of St. Paul; V. P. & G. M., H. C. Hornby; Secretary & Treasurer, J. E. Lynds; Auditor, J. H. Heininger, all of Cloquet.

In 1903 surveys were made for extending the line from Rush Lake to Cloquet, as the Weyerhaeusers were anxious to be independent of the uncertainties of log driving on the Cloquet and St. Louis Rivers. Hot ponds were built in the river at Cloquet and the mills operated in winter as well as in summer. After completing the extension, the road maintained shops and headquarters at Cloquet.

In 1910 twenty miles of new main line from Harris Lake to the D. & I. R. were built in order to get out the timber on burned over lands. The old line via Sullivan Lake was then abandoned.

The General Logging Co. conducted the logging activities for the Cloquet Lumber Co. and the Northern Lumber Co. and had branches on the D. & N. E., the longest extending twenty miles north from St. Louis Jct., at Mile Post 47. In 1927-28 the General Logging Co. constructed a new extension from Cascade Jct., on the D. & N. E., into Lake and Cook Counties. Fifty-one miles of new line were constructed connecting with the abandoned Duluth & Northern Minn. Ry. near Mile Post 73. For the next twenty-four miles they used the track of the D. & N. M., and at Cascade, Minnesota, erected a four-stall enginehouse and water and fuel facilities. The General Logging Co. constructed thirty-six miles of new line from Cascade to Rose Lake on the Canadian border. Most of the rail for this extension was obtained from the abandoned line of the D. & N. M. between Knife River and Mile Post 69½.

Crews of the Duluth & Northeastern R. R. had rights over the General Logging Co. line as far as Cascade, and handled all road work between this point and Cloquet, a distance of 131 miles. General Logging Co. crews and engines handled all trains east of Cascade. During the winter months the line between Cascade and Cloquet was a busy piece of railroad—examination of train dispatchers' sheets for February, 1930, showing as many as twelve trains daily in each direction.

By 1938 most of the timber along the General Logging Co. lines had been removed and their tracks were taken up. There was now little reason for the Duluth & Northeastern to maintain their line from Saginaw to Hornby and, in 1941, permission was granted to abandon the forty-six miles of track between these two points, leaving only the 11.4 miles of road between Saginaw, on the D. M. & I. R., and Cloquet. The Duluth & Northeastern is now controlled through stock ownership, by the Northwest Paper Co., a Weyerhaeuser subsidiary.

Locomotives of the Duluth & Northeastern Railroad

(From Mr. Irving Johnson, M. M., D. & N. E. R. R.)

No.	Builder	C/N	Date	Type	Cyls.	DD	WOD	Total	Remarks
1	Cooke	41117	1907	2-6-0	19x24	54	119680	133680	
2	Porter	2599	1902	2-6-0	15x24	42	70000	81700	Bought new.
3	Cooke	41118	1907	2-6-0	19x24	54	119680	133680	
4				4-6-0					ex-Duluth Const. Co. #17.
5	Brooks	1104	4/86	4-4-0	17x24	59			ex-NP #1109 (StP&D 40).
6				2-6-0					From Ashland logging operations.
7				2-6-0					From Ashland logging operations.
8				2-6-0					From Ashland logging operations.
9				2-6-0					
10				4-4-0					From Ashland, Wisc. logging operations.
11	Lima			Shay 2-truck					
12	Baldwin	11214	1890	2-8-0	20x24	50			Originally CNE&W #28. Bo't from Mesabe Southern. Sc '24.

13	Lima	173	5/87	Shay-2	10x10	29			From B. F. Hazleton, Bradford, Pa.
14*	Baldwin	40875	1913	2-8-0	20x24	51	126500	144500	Bought new.
15									No data.
16*	Baldwin	40874	1913	2-8-0	20x24	51	126500	144500	Bought new.
17	Porter			2-6-0					Very small engine.
18	Lima	2717	1913	Shay-2	11x12	32		120000	
19	Porter	2591	1902	2-6-0	15x24	42	70000	81700	Bought new. (ex-1? ex-4?)
20	Baldwin	30260	1907	2-6-0	19x24	54	112000	124000	ex-Panama #330.
21*	Baldwin	30217	1907	2-6-0	19x24	54	112000	124000	ex-Panama #325.
22	P'burgh	1525	1894	2-8-0	22x28	50	144000	160000	ex-DM&N #300.
23	P'burgh	1563	1895	2-8-0	22x28	50	144000	160000	ex-DM&N #301.
24	Baldwin	33897	1910	2-8-0	20x24	50	127000	144000	ex-V&RL #18.
25*	Baldwin	33898	1910	2-8-0	20x24	50	127000	144000	ex-V&RL #19.
26*	Baldwin	26958	1905	0-6-0	21x26	51		140000	ex-W. Md. #1003. Bo't 1952. WM 1003 to Greenbrier, Cheat & Elk #103 1929; to Preston RR #17, 1945.

* On 1953 roster.

Locomotives of the General Logging Co.

No.	Builder	C/N	Date	Type	Cyls.	DD	WOD	Total	Remarks
22	P'burgh	1841	1898	4-6-0	19x26	56	100000	123000	ex-DM&N #22.
24	P'burgh	1958	1899	4-6-0	19x26	56	100000	123000	ex-DM&N #24.
29	P'burgh	2094	1900	4-6-0	19x26	56	100000	123000	ex-DM&N #29.
33	P'burgh	2098	1900	4-6-0	19x26	56	100000	123000	ex-DM&N #33.
80	Lima	1819	1907	Shay	12x15	36			ex-Corrigan-McKinney Co. #11, Virginia, Minn. (mining).
81	Heisler								
90	Lima	5438*	1917	2-8-2	22x28	51		250000	ex-Cambria & Indiana #7.
91	Lima	5574*	1917	2-8-2	22x28	51		250000	ex-Cambria & Indiana #8.

* Assuming that C. & I. Nos. 7 and 8 were renumbered to 90 and 91, respectively.

Duluth, Virginia & Rainy Lake Railway

The Duluth, Virginia & Rainy Lake Railway was chartered under Minnesota laws, on August 15, 1901, to facilitate the logging operations of Wirt H. Cook and William O'Brien, who had acquired extensive timber holdings north of Virginia, Minnesota; W. H. Cook was president of the road. The first section of track was strictly a logging operation and extended from Virginia to the Sand Lake region some twenty miles to the north.

In 1903 the Rainy Lake Company was organized as a holding company for the stock of the Duluth, Virginia & Rainy Lake Railway and the associated logging activities. In 1907, Cook & O'Brien, the Weyerhaeuser companies, Edward Hines and others, all having large timber holdings north of Virginia, pooled their interests and formed the Virginia & Rainy Lake Company, with Edward Hines as president. At this time the name of the railroad was changed to Duluth, Rainy Lake & Winnipeg Railway, with W. H. Cook as president. The Virginia & Rainy Lake Company gained control of the railway by taking over the holdings of the Minnesota Land & Construction Company, which controlled the Duluth, Virginia & Rainy Lake road and timberlands through their Rainy Lake Company.

From 1908 to 1912 the main operations of the Virginia & Rainy Lake Company were to the west of the Sand Lake area. The roundhouse for the district was at Camp 35, located near the shores of Clear Lake. Motive power consisted of one 80-ton locomotive, six 65-ton locomotives and three 45-ton locomotives. The 80-ton engine hauled 35 cars to a trainload. At this time, the company had 200 Russell logging cars and three steam jammers for loading the cars.

The Duluth, Rainy Lake & Winnipeg was completed from Virginia to the Canadian border in 1908, 88 miles, and was operated independently until 1910, coming under the control of the Canadian Northern Railway Company at that time.

The Virginia & Rainy Lake Company acquired from the Canadian Northern sufficient steel for building of additional logging railroads into their vast timber holdings and connecting with the main line of the D. R. L. & W., at Kinmount, Arbutus, Cusson, and Britt. The length of these logging lines totaled nearly 140 miles. In later years the railroad and logging headquarters were at Cusson, a new village created by the company. There, the company had their headquarters buildings, locomotive machine shop, coal dock, warehouses, etc.

The V. & R. L. operated the largest white pine sawmill in the world at Virginia; in its peak year it produced 225,000,000 feet of lumber. By 1919 the V. & R. L. had 14 locomotives, 345 flat cars, 4 box cars, one refrigerator car, one pile driver, one Bucyrus steam shovel, ten log loaders, plus miscellaneous cars.

In October, 1929, the big mill at Virginia cut up its last log and was shut down after twenty years of operation. The logging lines of the V. & R. L. Co. were all taken up by around 1930.

The Duluth, Winnipeg and Pacific Railway Company (controlled by the Canadian Northern Railway Company) was incorporated under the laws of Maine on March 19, 1909. This company owns all the capital stock of the Duluth, Winnipeg & Pacific Railroad Co., which was incorporated on March 29, 1909, in Minnesota. In 1911 the Duluth, Winnipeg and Pacific Railway was constructed from Virginia to Duluth and, on January 10, 1912, the road leased the Duluth, Rainy Lake & Winnipeg Railway for fixed charges and maintenance. For a short time prior to 1911, trains of the Duluth, Winnipeg and Pacific Railway were operated over the line of the Duluth, Missabe & Northern Railway between Virginia and Duluth.

Locomotives of the Duluth, Virginia & Rainy Lake Ry.*

10	Dickson	26261	1902	2-6-0	19x26	56"	129000	DW&P #127	Scrapped 1917**
11	Dickson	26262	1902	2-6-0	19x26	56"	129000	DW&P #128	Scrapped 1917**
12	Dickson	26263	1902	2-6-0	19x26	56"	129000	DW&P #129	Scrapped 1917**
13	Dickson	26264	1902	2-6-0	19x26	56"	129000	Not sold to DW&P	
14	Dickson	26288	1902	2-6-0	19x26	56"	129000	Not sold to DW&P	
15	Dickson	26289	1902	2-6-0	19x26	56"	129000	Sold to Detroit, Toledo & Ironton	
200	Rhode Isl.	40678	1906	2-8-0	20x26	50"	154000	DW&P #1800	Scrapped 1917
201	Rhode Isl.	40679	1906	2-8-0	20x26	50"	154000	DW&P #1801	Scrapped 1917
202	Rhode Isl.	40680	1906	2-8-0	20x26	50"	154000	DW&P #1802	Scrapped 1917
100	Rogers	41210	1906	4-6-0	19x26	62"	143000	DW&P #1352	Scrapped 1929
101	Rogers	41211	1906	4-6-0	19x26	62"	143000	DW&P #1353	Scrapped 1929

* All of the above locomotives were constructed for the Minn. Land & Construction Co.

** Scrapping dates approximate.

No record of DV&RL locomotive Nos. 1 through 9.

Locomotives of the Virginia & Rainy Lake Company

(From Mr. Alex T. Gerber, former V. & R. L. engineer, Orr, Minn.)

No.	Builder	C/N	Date	Type	Cyls.	DD	Remarks.
1	Porter			2-6-0			
2	Porter			2-6-0			
3	Porter			2-6-0			
14	Baldwin	39670	1913	2-8-0	20x24	50	
15	P'burgh			2-8-0			Scrapped 1935.
16	P'burgh			2-8-0			
17	Baldwin			2-8-0			
18	Baldwin	33897	1910	2-8-0	20x24	50	Sold to D&NE #24.
19	Baldwin	33898	1910	2-8-0	20x24	50	Sold to D&NE #25.
20	Lima	769	1903	Shay-2	11x12	32	ex-Minn. Land & Const. Co. #20.
21	Lima	770	1903	Shay-3	12x12	32	ex-Minn. Land & Const. Co. #21.
22	Lima	551	1898	Shay-3	12½x12	36	ex-T. A. Blackwell #4.
23	Lima	1506	1906	Shay-3	12x15	36	ex-Minn. Land & Const. Co. #23.
24	Lima	1703	1906	Shay-3	12x15	36	ex-Minn. Land & Const. Co. #24.

Note: There was also a small 2-6-0, called the "Goose," which was scrapped while the company still had large timber reserves.

Minnesota, Dakota & Western Railway

The Minnesota, Dakota & Western Railway Company was incorporated in 1902 as the International Bridge & Terminal Company; name changed later to above. The original plan was to construct 200 miles of line extending from International Falls to various points in Minnesota. It was the aim of E. W. Backus to extend the line westward from Loman to a connection with the Minnesota Northwestern Electric Railway Company (abandoned 1940) thus gaining entry into Thief River Falls, Minnesota. It was also planned to connect with the Minneapolis & Rainy River Railway near Craig, Minnesota, via the Deer River Line of the International Lumber Company.

In 1941 the road operated 45.65 miles of line. (Including operation over the Northern Pacific from International Falls to Little Fork). At that time there were 6 locomotives, 348 freight cars and 9 service cars.

At the present time the road operates 3.58 miles of main line from International Falls to Falls Jet., plus sidings at International Falls amounting to 28.29 miles. The Loman line was abandoned in 1947. Equipment now consists of 6 locomotives, 343 freight cars and 6 service cars. The road is controlled through stock ownership by the Minnesota & Ontario Paper Company.

Acknowledgments

The writer wishes to make grateful acknowledgment to the following persons and organizations for their support in the preparation of this paper:

John Fritzen, Regional Supervisor, Minnesota Forestry Department, Duluth, whose help in supplying historical data and in preparing of excellent logging railroad maps was of inestimable value.

Charles E. Fisher, President, R. & L. H. Society, for his listing of Shay and other locomotives.

Jake App, former locomotive engineer, Knife River, Minn., for his help on the Duluth & Northern Minnesota Ry. locomotive roster.

T. A. Brown, former Master Mechanic, Minneapolis & Rainy River Ry., Deer River, Minn., and Martin Carlson, former locomotive engineer, M. & R. R., for their assistance in supplying historical and locomotive data for that road.

W. Kreuger, Superintendent, and Irving Johnson, Master Mechanic, Duluth & Northeastern R. R., Cloquet, Minnesota, for their assistance in compiling the locomotive roster and other data for that road.

Alex Gerber, former locomotive engineer, Virginia & Rainy Lake Company, for supplying the locomotive roster and other information regarding the V. & R. L. Co.

Ed Schiels, former engineman, J. M. Paine & Company and Mitchell-McClure Company, for locomotive and other data on the two above companies.

Lyman Molander, Minneapolis, Minnesota, for his early historical data regarding the Minneapolis, Red Lake & Manitoba Railway.

Harlow Watkins of the Carlton County Historical Society.

William E. Scott of the Lake County Historical Society.

F. Stewart Graham, Assistant Editor.

St. Louis County Historical Society.

Duluth Public Library (newspaper files).

(Additional data were supplied to some of the rosters through the kindness of Prof. S. R. Wood, of Stillwater, Okla.)

The Wabash

BY CHARLES E. FISHER

The Wabash Railroad is the only railroad in this country whose trackage extends for any considerable extent both east and west of the Mississippi River. The road has had a checkered history which can only be dealt with lightly here.

In Bulletin 84, I gave a brief account of the Northern Cross R. R. to distinguish it from the road of the same name that became a part of the Burlington System. This road was part of the internal improvements of the State of Illinois. The state relinquished control in 1847 and the road became known as the Sangamon & Morgan and then the Great Western R. R.

Meanwhile, a group of men in Toledo, Ohio, headed by Azariah Boody, had been granted a charter in 1853, to build a railroad from that city down into Illinois to move the grain from that state to the Great Lakes and then ship it east. Chartered as the Toledo & Illinois R. R., the name was subsequently changed to the Toledo & Wabash R. R., and, so far as I know, this was the first use of the name Wabash in the corporate title of the roads making up the present Wabash R. R. In 1865, this road, together with the Great Western; the Quincy & Toledo and the Illinois & Southern Iowa were consolidated to form the Toledo, Wabash & Western R. R. Roughly, the road extended from Toledo to Camp Point, Ill., near Quincy where a connection was made with the Burlington, a distance of 454 miles and a 109 mile line from Decatur to East St. Louis, the latter came in 1870 through the purchase of the Decatur & St. Louis R. R.

On January 1, 1877, the name of the T. W. & W. was shortened to the Wabash Ry., through reorganization and, in 1879, the Wabash together with the St. Louis, Kansas City & Northern Ry. were consolidated to form the Wabash, St. Louis & Pacific Ry., with the Gould interests in control. The main line was between Toledo and Kansas City, via St. Louis but, by 1882 the total mileage, including all of the branches reached 3,348 miles. The St. Louis, Kansas City & Northern Ry. had its origin in the North Missouri R. R., featured on our Annual Report for this year.

Another receivership resulted in a reversion to the former name of Wabash Railway and a reduction of mileage to 948 miles. July 29, 1889, this company together with the Wabash Western were consolidated to form the Wabash Railroad. This brought the total mileage to 1930 miles, the main line still between Toledo and Kansas City via St. Louis and, although O. D. Ashley of New York was president, George J. Gould was on the Board of Directors. As a result of the receivership of the Wabash, St. Louis & Pacific Ry., this road was divided into two parts—the lines east of the Mississippi River came out as the Wabash and those west of that river the Wabash Western but numerous lines were dropped as shown in the reduction in the mileage.

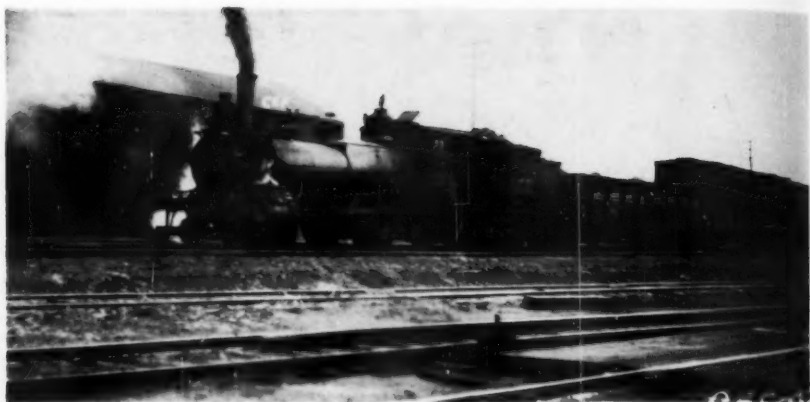
At the turn of the century the road became a part of Gould's proposed transcontinental railroad. By means of the Western Pacific



Wabash #405. Manchester, 1881. 17x24" 56" 75800



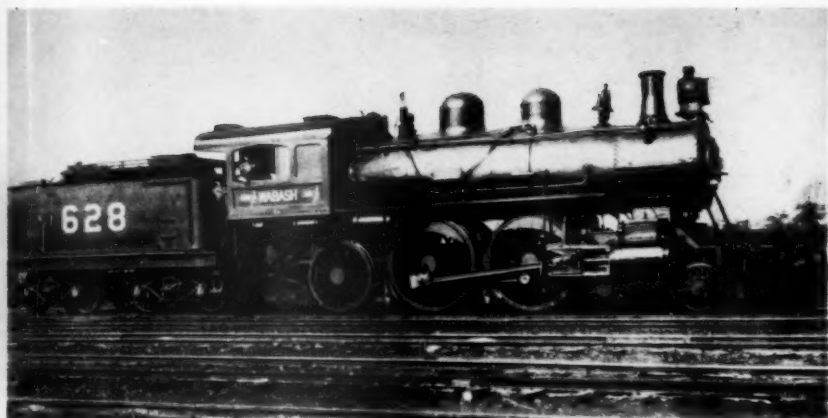
Wabash #414. Rhode Island 1892. 17x24" 70" 98000



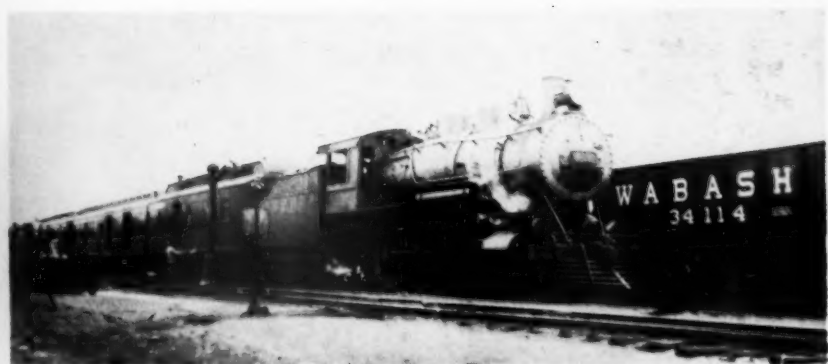
Wabash #477. Rhode Island 1880. 18x24" 64" 98000



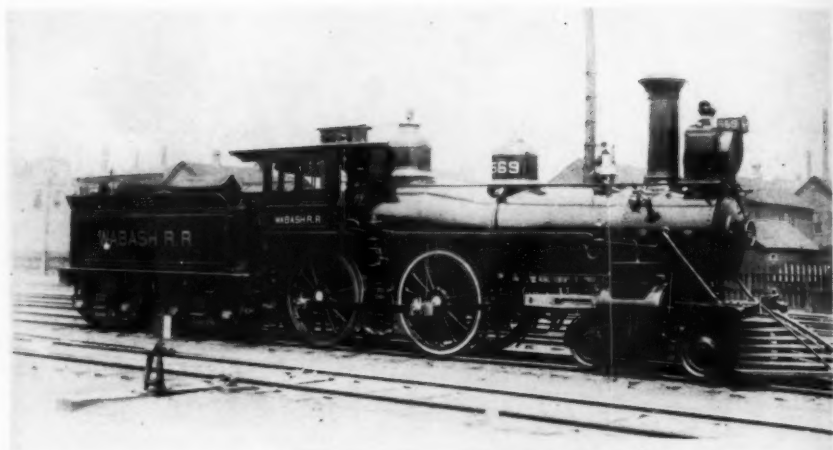
Wabash #522. Baldwin 1903. 19x28" 58" 143065



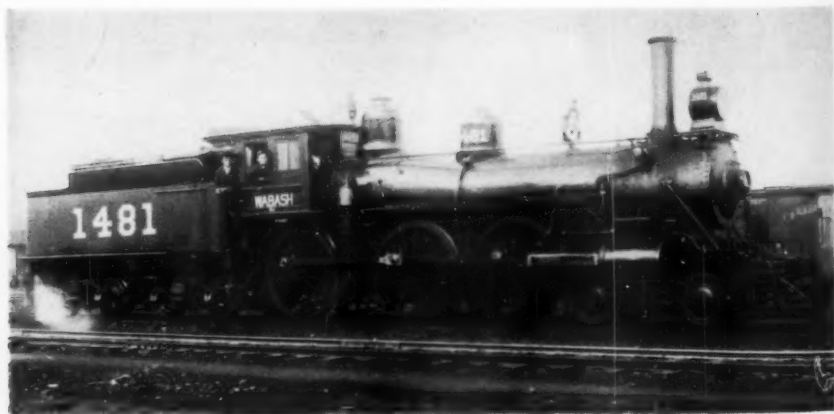
Wabash #628. Richmond 1901. 19x26" 80" 161600



Wabash #636. Baldwin 1904. 21x28" 74" 183300



Wabash R. R. #569. Rhode Island 1882. 17x24" 62" 85000



Wabash #1481. Rhode Island 1880. 18x24" 70" 98000

he had already reached the Pacific. In 1898 he executed an agreement with the Grand Trunk Ry. giving him the use of the car ferries at Detroit and the use of their tracks to Suspension Bridge, N. Y. From Toledo, the Wheeling & Lake Erie was acquired and the road proposed to build into Pittsburgh and then the Western Maryland would bring them to tidewater but, the Wabash Pittsburgh Terminal as well as other factors were their undoing, the vision faded and the Wabash again was in the hands of the receiver.

Although the building of the line through Montpelier to Detroit has overshadowed the importance of Toledo as the eastern terminus of the main line, this 2393 mile railroad, shorn of many of its branches resembles the former W. St. L. & P. Ry. of 1882. From Kansas City, Omaha and Des Moines on the west, these lines converge towards St. Louis together with a direct line from Kansas City to Detroit. Branches to Keokuk and Quincy extend from this line. The old Decatur & St. Louis R. R. brings the St. Louis traffic to this line and from Bemet extends the road to Chicago. Trackage rights over the Grand Trunk bring the road into Suspension Bridge, N. Y. and the road also reaches Buffalo. Acquisition of the Ann Arbor R. R. from Toledo to Frankfort brought the road to upper Lake Michigan and there is a busy freight road from Montpelier, Ohio to Gary, Indiana and Chicago. Truly, the Wabash serves the Heart of America and the Pennsylvania R. R. watches it with a fatherly interest.

Within the short compass of this article we can only briefly discuss the more interesting locomotives that ran on these railroads as shown on their rosters. The Toledo & Illinois roster for 1859 lists 15 Rogers locomotives, not named, for freight service and 15 from William Mason, all named, for passenger service. Seven of the latter had 72" drivers and subsequent rosters show them replaced with 60" drivers, save the "Fairy" who seemed to have retained hers for many years. Doubtless the smaller drivers would wheel the trains fast enough over the light track. Curiously the name of William Mason appears as a Director of the T. W. & W. Ry. for several years. Whether this was the result of a direct investment on his part or whether he accepted a certain amount of stock as partial payment for these and future engines, we don't know but I rather suspect it was the latter reason.

The Toledo, Wabash & Western roster of 1866 shows additional engines from Mason and Rogers on the Eastern Division, the former Toledo & Illinois R. R. while those on the western division came from a variety of builders. The new engines ordered by this road came from Mason, Pittsburgh and Schenectady.

The Wabash, St. Louis & Western R. R. inherited a wide variety of locomotives from many builders and the new engines came chiefly from the Baldwin and Rhode Island Works. Some of the Baldwin 4-6-0's had 19x22" cylinders, those of the Rhode Island's had 19x24" and the Baldwin moguls also had 19x22" cylinders. It is interesting to note that there were a few locomotives of the 2-4-0 type in passenger service.

In 1885, one J. B. Barnes was Sup't of Motive Power and Machinery at Springfield, Illinois and he built new or rebuilt a number of locomotives in these shops. It was about the time of the formation of the railroad brotherhoods, so bitterly opposed by the management in some sections and one of the locomotive firemen had lettered both sides of the sand box of his engine—"B L F." Coming out of his office one day, Mr. Barnes noticed the letters and angrily asked what they stood for. "Barnes' Latest Failure," was the reply, whereupon one can only wonder what happened to the fireman. I used to see at Toledo, some 4-4-0 passenger locomotives with the dome set well forward and the sand box directly in front of the cab. I was told that they were the product of Mr. Barnes and in placing his dome forward, he evidently attempted to get dryer steam to his cylinders.

I have used three of this type to illustrate this article but the little 414 was in service as late as 1921 between Toledo and New Haven with her long baggage car, coach and smoker and St. Louis sleeper, going down in the evening and returning the next morning. In 1899 the road purchased three 4-4-0 type engines from the Rhode Island Works with $18\frac{1}{2} \times 26$ " cylinders, 74" drivers and weight of 122900 lbs. Baldwin, that same year furnished five engines, same size cylinders but with 78" drivers followed in 1900 with two with 19×26 " cylinders and 74" drivers.

Of the 4-6-0 type, the Wabash had many of them that were designed for passenger and freight service. One of the earlier of this type is illustrated herewith and, in 1898 the road placed an order with the Richmond Works for five of their compounds with $20\frac{1}{2} \times 32\frac{1}{2} \times 26$ " cylinders, 63" drivers and a weight of 155500 lbs., Nos. 716-720. Five simple engines Nos. 711-715 were also ordered with 19×26 " cylinders, 63" drivers and weight of 128900 lbs. Five similar engines were received from the Pittsburgh Works, Nos. 706-710 and five from the Baldwin Works, Nos. 701-705. In 1904, Baldwin delivered ten more of this type, Nos. 636-645, with 21×28 " cylinders, 74" drivers and a weight of 183700 lbs. In the spring of 1913, I took the "Continental Limited" out of Fort Wayne for Detroit, that was drawn by one of these engines. We were at least half an hour late leaving and the train was made up of a combined baggage and smoker, coach, cafe coach and Pullman, all steel. I had no lunch that day and I thoroughly enjoyed that beef steak dinner. Perhaps hunger sharpened my appetite but this was one of the meals that you remember that you enjoyed. After dinner I went up in the smoking car which was directly behind the locomotive. We had only one stop at Adrian before reaching Detroit. Darkness had fallen by the time we left Ft. Wayne and now a rain had set in but that Baldwin engine ran that train like a jack rabbit and altho' I had no way of knowing how fast we were going, we must have been running at a mile a minute most of the way. We pulled into the Fort Street Station right to the dot but the road had been freshly ballasted with gravel, about the color of molasses taffy, and that gravel was plastered and streaked on the sides of that passenger equipment. I saw some of these engines still in service out of Toledo in 1921 and, they sure could run.

Of the 2-6-0 type, in 1899 the road ordered 11 from the Rhode Island Works, Nos. 759-769, with 19x24" cylinders, 63" drivers and a weight of 123500 lbs. Four compounds accompanied these engines, Nos. 751-754 with 20½x32½x28" cylinders, 63" drivers and weight of 124500 lbs. In 1901, the Richmond Works furnished 34 engines, Nos. 801-834, same sized cylinders and drivers but a bit heavier and, in 1903, Baldwin furnished 32 compounds, Nos. 835-866, same dimensions but weighing 148750 lbs. and 37 simple engines, Nos. 867-903, with 19x28" cylinders, same sized drivers and about the same weight. Most of these moguls in time were simplified and many of the Baldwin engines were converted to six wheel switchers.

Of the Atlantic (4-4-2) type, the road received from the Richmond Works in 1901, six locomotives, Nos. 624-629, with 19x26" cylinders, 80" drivers and a weight of 161600 lbs. These were followed in 1903 by twelve from the Brooks Works, Nos. 612-623, with 21x26" cylinders, 84" drivers and a weight of 180700 lbs. Ten more came from the Baldwin Works, Nos. 602-611, in 1904, with 21x28" cylinders, 80" drivers and a weight of 197800 lbs. One of the Richmond engines is shown herewith and all were assigned the best trains at the time.

Of the Prairie (2-6-2) type, the road received two lots. The first, Nos. 2001-2030, came from the Baldwin Works in 1906 with 22x28" cylinders, 70" drivers and a weight of 206000 lbs., while the second lot, consisting of sixty, Nos. 2031-2090, similar to the others, were built by Rogers in 1907. This type presented its troubles and the road wisely rebuilt many of them to the Pacific type after World War I and classified them as J-2. Some remained in service as late as 1948 as originally built.

The consolidation (2-8-0) type did not seem to be popular on the Wabash. Fifteen, Nos. 2150-2166, were received from Brooks in 1905 with 19½x28" cylinders, 58" drivers and weighed 174250 lbs. These were followed in 1906 by thirty, Nos. 2301-2330 from Baldwin with 22x30" cylinders, 58" drivers and weighed 224000 lbs.

In 1912, the road received two groups of Pacific (4-6-2) type locomotives. Nos. 660-669 came from the Richmond Works of the American Locomotive Co. with 24x26" cylinders, 74" drivers and weighed 240500 lbs. The Baldwin engines were numbered 670-675 and were about the same as the others. These were the only Pacifics ordered by the road and they handled the heavier passenger trains but, it must be remembered that these sixteen engines were augmented by seventeen of the Prairie types which were rebuilt to the Pacific type.

Of the Mikado (2-8-2) type, in 1912, Nos. 2401-2415 were received from the Richmond Works and Nos. 2416-2443 from the Baldwin Works. Both groups had 26x30" cylinders, 64" drivers and weighed 266840 lbs. The following year, 20 more, Nos. 2444-2463 came from the Pittsburgh Works of the American Locomotive Co. In 1918 the road received 20 more of this type, Nos. 2201-2220, U. S. R. A., both built at Schenectady and Baldwin, with 26x30" cylinders, 64" drivers and weighing 292000 lbs. In 1923, the Schenectady Works delivered Nos. 2250-2279 and these locomotives had 27x32" cylinders, 64" drivers and weighed 325000 lbs. Nos. 2270-2274 were equipped with feedwater heaters and Nos. 2274-2279

also had boosters and these engines weighed more. In 1925, Schenectady again delivered 45 engines, Nos. 2700-2744, whose dimensions closely follow of this type with three cylinders, Nos. 2600-2604, also built in 1925. Two cylinders were 23x32", the third 23x28", 64" drivers and weighed 340490 lbs. The three cylindered engine did not find favor on some of our roads and these engines were subsequently rebuilt to the 4-6-4 type, numbered 700-704, with 26x28" cylinders, 80" drivers and weighed 374680 lbs. Nos. 2743-2744 were also rebuilt to this type with the same dimensions. These mikado type engines were a very capable locomotive.

In 1925, the Brooks Works delivered 25 locomotives of the Santa Fe (2-10-2) type with 29x32" cylinders, 64" drivers and weight of 395000 lbs. Numbered 2501-2525, some were subsequently equipped with feed-water heaters and all were used in heavy freight service.

In 1930, the Baldwin Works delivered 25 locomotives of the Mountain (4-8-2) type, numbered 2800-2824, with 27x32" cylinders, 70" drivers and weighed 406400 lbs. In 1930 and 1931, Baldwin delivered twenty-five of the Northern (4-8-4) type, numbers 2900-2924, with 27x32" cylinders, 70" drivers and weighed 459290 lbs. Both types were used for fast freight service and were very fine, capable locomotives.

Turning a moment to the sometimes overlooked switching locomotives, the road purchased Nos. 501-504 from Rhode Island and Nos. 505-508 from the Richmond Works. Both groups were of the 0-6-0 type with 18x24" cylinders, 52" drivers and weighed 104000 lbs. Nos. 509-524 came from the Baldwin Works in 1903 with 19x28" cylinders, 58" drivers and weighed 143065 lbs. Nos. 525-536 came from Rhode Island in 1906; Nos. 537-546 from Baldwin in 1907 and 547-553 from Rhode Island in 1907. All were of the 0-6-0 type with 21x26" cylinders, 52" drivers and weighed 154000 lbs.

Of the 0-8-0 type, Schenectady in 1923 furnished Nos. 1525-1544 and Lima in 1926 built Nos. 1545-1569. Both were of U. S. R. A. design with 25x28" cylinders, 52" drivers, the ALCo. engines weighed 217500 lbs. while the Lima engines weighed 223800 lbs.

This covers briefly a history of the Wabash and a little about their locomotives. I have purposely illustrated it with locomotives of the older types because they are less common than the modern types and they may be of more interest for that reason. To the writer, the road has always been of interest and there always seemed an atmosphere of welcome on their trains.

Wilhelminastraat 59, Haarlem, Holland

Editor:

Through the courtesy of my friend Dr. Ir. A. D. de Pater, I have had the opportunity of reading Bulletins 88 and 89 that included the interesting articles on Valve Gears.

The reason why I am particularly interested in this subject is because I have written in our own Dutch periodical—"Spoor-en Tramwegen," an article called, "Modern Locomotive Construction and its Precedents," in which the chapter on valve motions contains three special valve motions not listed by Mr. Jukes.

These are John Gray's steam distribution, Forrester's Fork motion and Melling's Valve motion, all of which were described in my article in the above magazine. I am sending you a translation of the description of these valve motions and you are free to copy the illustrations for your Bulletin.

John Gray's Motion

This motion had the nickname—"Horseleg motion." On the reversing shaft (A) are keyed two angle levers (1-2) and (3-4.) The ends of (2) and (4) are coupled by short links to the forward eccentric rod (5) and the backward eccentric (6). The pins of the eccentric rods carry rollers with which they turn in the expansion link (7) which has on both sides a curved slide and oscillates on the fixed axle (B). In the position shown in the drawing, this oscillation is done through the forward eccentric rod (5). The movement of the link (7) is transmitted by means of the pin (8) to the valve rod (9). The nearer the end of the eccentric rod (5) is the shaft (B), the greater is the oscillation angle of the link (7) and the greater also is the stroke of the pin (8) and consequently the greater will be the admission of steam to the cylinder.

In order to attain this, the pin with roller must be moved in the link. This is done in the following way. The frame (10) shifts when moving the reversing handle (11), horizontally on the pins (12) and (13). The rollers (14) and (15) thereby move in the slides of the levers (1) and (3). Through the special form of the slides, the lever (1) at first remains without action, being horizontal in its first part. The roller (15), on the contrary, moves by means of lever (4) with roller of the eccentric rod (5) quickly up in the link and completely out of it. Now the curved part of the slide of lever (1) comes into action and draws by means of the lever (2) the roller (6) of the backward eccentric rod quickly down into the link through which the reversal in back gear is completed.

Through the widening out of the upper part of the link, the rollers of the eccentric rods can be brought into the link in any position of it, whereby the link then rotates on the shaft (B) through which the slide valve is brought in the required position for the opposite turning motion of the engine, contrary to the arrow. The radius of the ex-

pansion link is equal to the length of the eccentric rods. In the dead centres of the crank, the centre of the curve of the link coincides with the centre of the forward eccentric. Therefore, when lifting the reversing handle (11), the valve remains stationary—there is thus constant lead. But this is only attainable for the forward motion of the engine in the direction of the arrow. Since there are two eccentrics, each with its angle of advance and only one of them can stand concentric with the link at dead centre of the crank. This appears also from the reversing quadrant which has a fine graduation from 82 to 46% admission. For backward moving only the position of the greatest admission can be used.

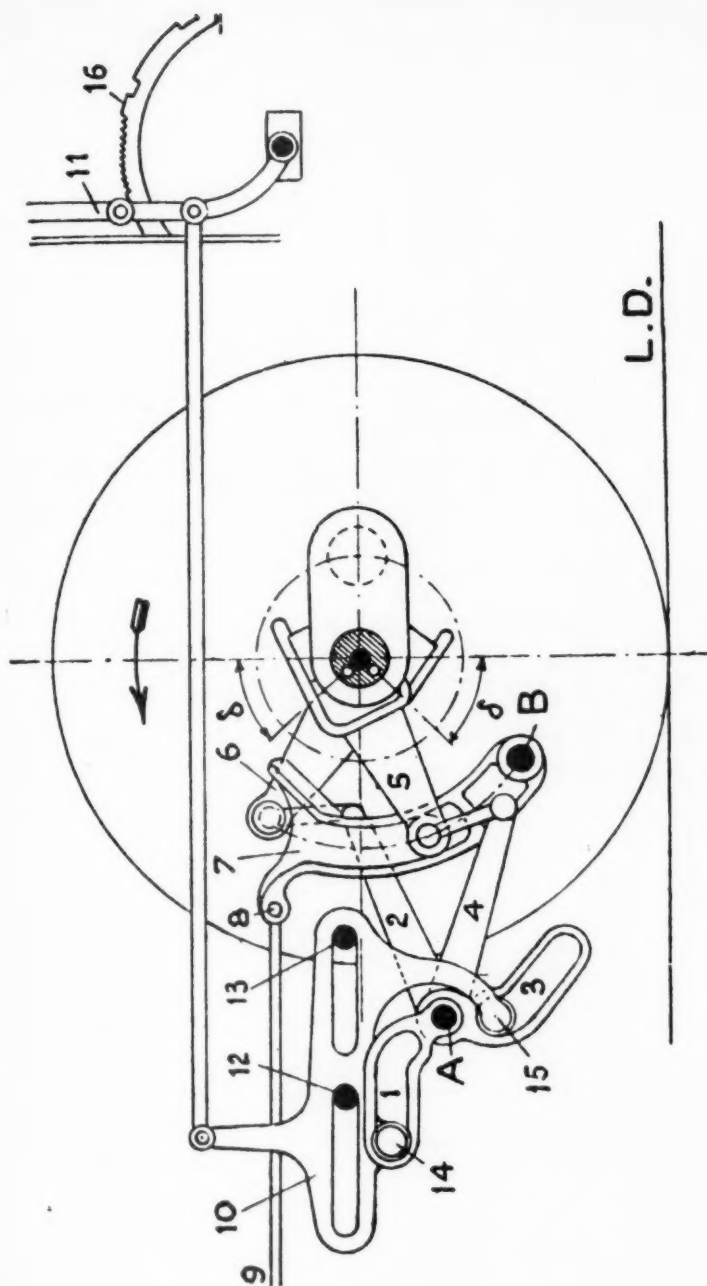
A drawback with this gear was that the short radius of the slides of the levers (1) and (3) require great manual force. This is necessary as the roller of one eccentric must be quite out of the link before the other can be allowed to enter. The valves have the very long stroke of about 6 inches, the lap is $\frac{1}{2}$ inch and the lead $\frac{3}{8}$ of an inch. The engine "Cyclops" of the Liverpool & Manchester Ry. was equipped with this gear.

A disadvantage of this way to get variable expansion was that the stroke of the valve became smaller when linking up and the pre-release too, which is just contrary to what is required at high speed. John Gray gave his valve a $\frac{7}{8}$ inch lap and a release lap of $\frac{3}{8}$ of an inch. With his valve gear a fuel economy of 12% was attained. He applied his gear in 1840 to engines of the Hull & Selby Ry. of which he was Locomotive Superintendent.

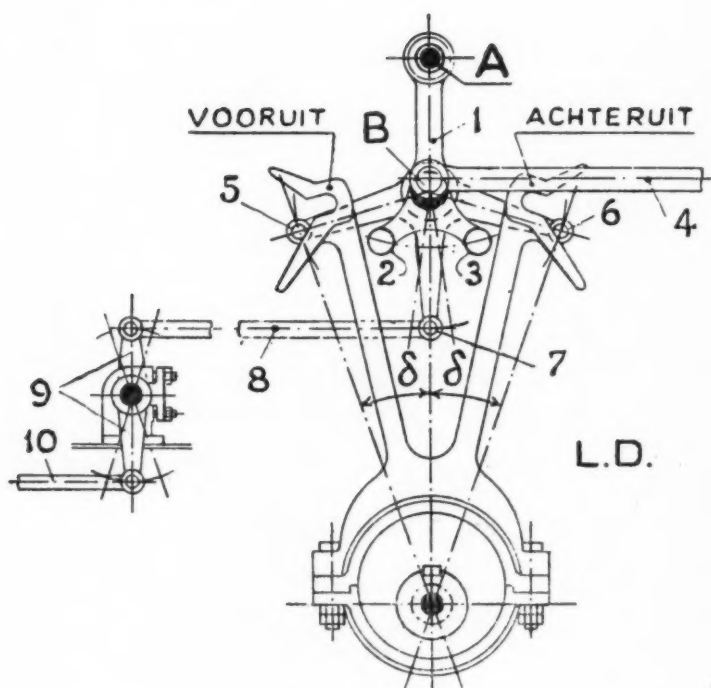
Forrester's Fork Motion

It is not absolutely necessary in order to change over from forward gear to backward gear to apply two eccentrics. The same can be obtained with one fixed eccentric by changing the direction of movement of the eccentric. Forrester solved this requirement by means of the mechanism shown in this drawing which he applied to two locomotives of the 2-2-2 type built in 1840 for the Grand Junction Ry.

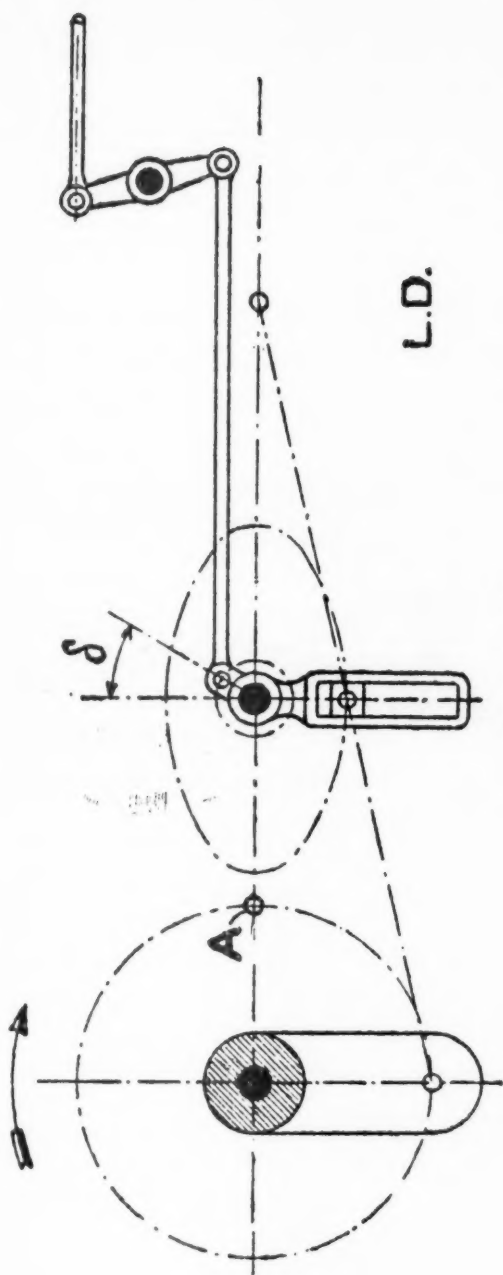
The motion was arranged vertically on both sides of the boiler in order to release the inaccessible space between the frames under the boiler from the mechanism of the gear. The upper half of the eccentric strap forms one part with two diverging eccentric rods which each carry at their upper end a fork. The reversing shaft (A), if it may be so called, carries a pendulum (1), which has at its lower part two offshoots (2) and (3), which are kept in the required position by means of the reachrod (4) of the reversing handle in the cab of the engine. In the drawing the pendulum and the reversing handle is in mid-gear. The fixed shaft (B) carries the three-branched tumbler with pins (5), backward gear, the pendulum (1) is moved either to the left or right, backward gear, the pendulum (1) is moved either to the left or right, whereby the offshoots (2) or (3) force the forward or backward eccentric rod aside and the eccentric strap turns on the eccentric sheave and compels the pins (5) or (6) to enter the mouth of the corresponding



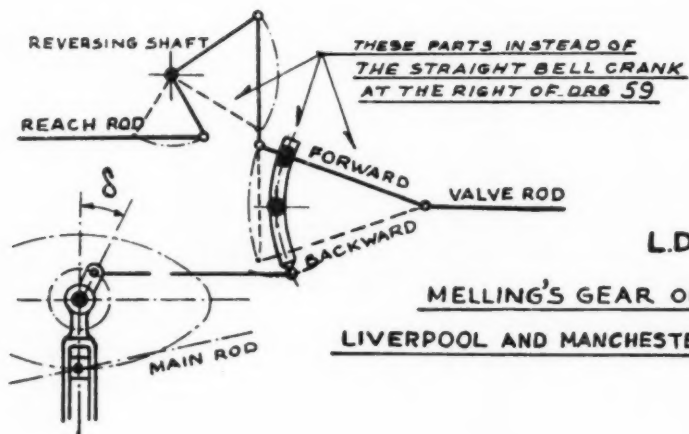
John Gray's Steam Distribution



Forrester's Fork Motion



Melling's Valve Motion



L.D.

MELLING'S GEAR ON THE
LIVERPOOL AND MANCHESTER RAILWAY

fork. Thus the three-branched tumbler is brought into the required position and the eccentric rod assumes the position of either forward or backward gear. The pin (7) has at the same time, by means of the rod (8), bellcrank (9) and valve driving rod (10), adjusted the valve to the required position. The line drawn from pin (5) to the centre of the axle of the engine represents the diverging line for forward running. The similar line drawn from pin (6), when this is brought into action, to the centre line of the crank axle, represents the diverging line for backward running. These two cases are indicated on the drawing by the words "vooruit" (forward) and "achteruit" (backward) running.

The slide valve is an ordinary valve with outside laps. However, since the direction of moving is inverted by the bell crank (9), the rod (8) makes a movement corresponding with a slide valve with inside laps. Through this one half of the diverging angle is represented in the drawing by the angle of advance. As will be seen, the mechanism gives no variable expansion. During the angular movement, when the engine is running, it was unavoidable that the offshoots (2) and (3) should have a slight slack between the eccentric rods as will be noted in the drawing. Notwithstanding this imperfection, one must admire the resourcefulness of the inventor.

Melling's Valve Motion

This gear, which was tried on the Liverpool & Manchester Ry., was designed to eliminate the use of eccentrics. We see on the centre line of motion an axle, around which a crank with slide is brought to rotate by means of a slide block which is fixed to a pin in the middle of the connecting rod. A short lever keyed on at an angle of advance moves the slide valve by means of a bell crank. In this way the elliptical curve of the connecting rod is transformed into a circular movement. The angular velocity of the long lever is smallest near the dead points as the slide block then has the greatest distance to the turning point. If, therefore, the corresponding slide valve should be moved, the steam port would be opened very slowly. Melling therefore let the slide valve move from the connecting rod of the other side. This caused a very quick opening of the steam port as well as of the exhaust. The crank as well as the slide in the drawing are those of the other side. The crank belonging to the valve motion stands at (A). Altho the motion of the slide valve is dependent on the other side, as with the Bellpaire gear, the motion of the valve is correct. This valve motion may be considered as a predecessor of the later Joy gear. (Neither Fred Jukes nor your Editor could figure out the working of this gear with the result the author submitted an additional sketch.)

Application of Joy's Valve Motion in England

Joy's valve motion was certainly popular in England. F. W. Webb, Chief Engineer of the London & North Western Ry. used it on all his three cylinder and four cylinder compounds. His successor G.

Whale used it on his 4-4-0 engines of the "Precursor" and "George V" classes.

The main reason why Mr. Webb's attention was called to the Joy motion was that his 61½" driving wheel 0-6-0 engines, which were in great use on excursion trains, he wanted an engine with 9" main bearings to run a greater number of miles between repairs. When Joy showed him his gear, Webb immediately saw the great advantage caused by the absence of eccentrics which would permit placing the cylinders closer together with the valves above and permit longer crank axle bearings. Furthermore, the gear was light and gave good steam distribution.

Thus, in 1880, Webb built his first enlarged DX goods No. 2365 which was his first locomotive with the Joy gear in England and, no fewer than 310 locomotives were equipped with this gear up to 1902. Not only the L & N W Ry. used this gear but the Lancashire & Yorkshire Ry. adopted it as standard for many years and Mr. A. F. Aspinall's large 4-4-2 express type locomotives of 1899 had this gear. It was also used on the Great Eastern; Great Western; Midland; North Eastern and Great Central Rys. Except on the Webb three-cylinder engines, the Joy valve gear in England was a pronounced inside gear. A total of no fewer than 2906 locomotives were built with this gear and the statement made on page 38, Bulletin 89 that it was used to "some extent" seems to require some correction.

In marine use, the position of the valves at right angles with the centre line instead of between the cylinders reduces the length of the engine room where saving of space is important. Independent of Joy, a certain Prof. C. P. Holst invented a similar gear and only when it was applied to some torpedo boat destroyers of the Dutch Navy and a patent was applied for did they learn that one had been granted to Joy a few weeks earlier.

Respectfully yours,

L. DERENS.

Editor's Comment:

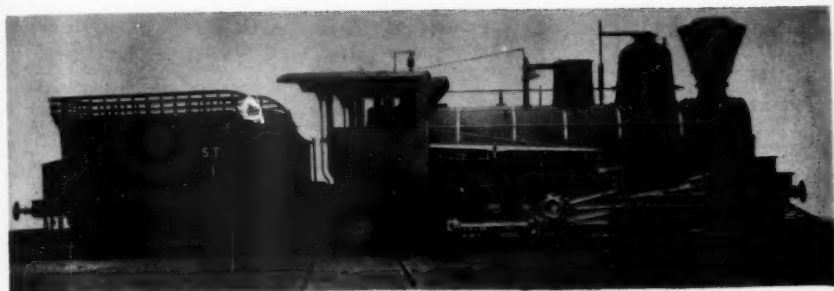
We deeply appreciate the kindness of Mr. Derens in submitting this translation of his work in letter form accompanied by the drawings. However, we have since called his attention to his oversight on page 17, Bulletin No. 89, in which the author states the gear was applied to more than 2900 locomotives. The comments made by Mr. Jukes about this gear are borne out in actual practice and in the railway journals and furthermore, how large a percentage of the locomotives were equipped with this gear? If not over 10% of the locomotives in service at the time, the words "some extent" seem to be justified.

92 Ave. Mozart, Paris, France.

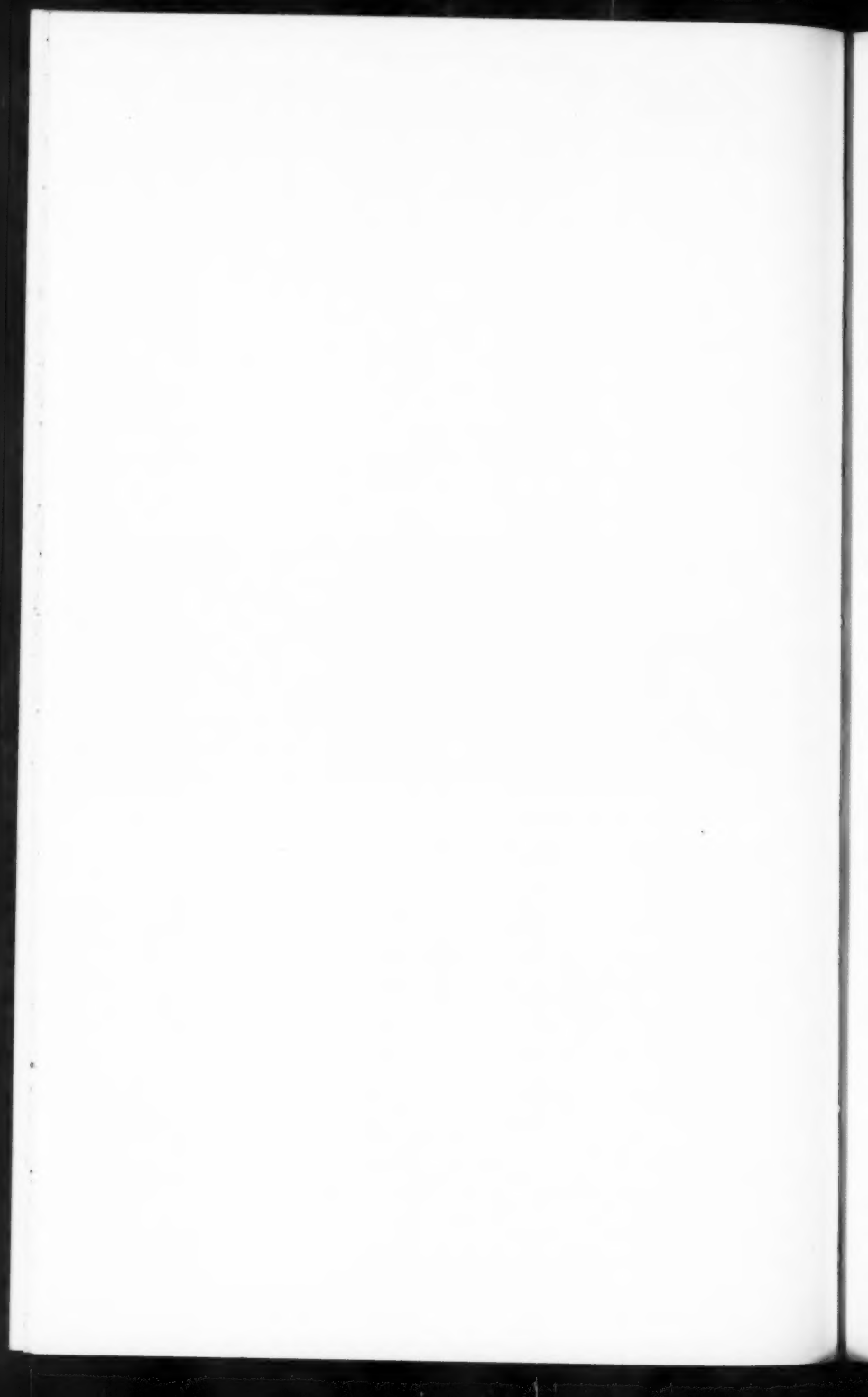
Editor:

I am able to supplement the information given by Mr. Jukes in Bulletin 92, by sending an authentic reproduction of the photograph of one of these engines. I know of no other copy extant.

To the description already published, may I add that the peculiar system of coupling between engine and tender was first applied on



The "Mississippi River" for the Memphis, El Paso & Pacific R. R.



the celebrated Beugniot engines of 1859, illustrated on page 192, Fig. 93, "Development of the Locomotive," by Angus Sinclair. In 1870, Mr. Beugniot was still head of the Locomotive Department of Ste. Alsacienne.

These locomotives were built on the same general characteristics as a series delivered to the Paris & Orleans Ry., between 1860 and 1863, Nos. 1528-1565, by another firm. In the following groups, 1566-1575 and 1875-1877, built in the Railway Shops, the railroad did not adhere strictly to the arrangements, dimensions and characteristics of the former P-O engines but to the Memphis locomotives, excepting the cab and cow-catcher.

The main dimensions were (metric measurements):

Wheels, dia. 1.510; cyl. 460x560; grate area 1.570 m²; boiler pressure 8⁵/₈; 195 tubes, length 4460; heating surface 8.5 plus 131 total 139.5 m². Total length 9968; breadth 3.160; gauge 5'6".

Fitted with one pump and one injector.

Weight: empty 36.560; fully loaded 40.410 metric tons.

On the P-O Ry., the identical engines, used mainly in mountainous country, were rated as follows:

Speed 26-30 km:hr equal to 15½ to 19 mph.

Tons (metric), hauled on incline up to 1:200-370 behind the tender

1:125-350

1:100-240

I hope the above will be of interest to our members.

Very truly yours,

F. ACHARD

Worth Reading

Compiled by

ELIZABETH O. CULLEN, *Librarian, Bureau of Railway Economics,
Association of American Railroads, Washington 6, D. C.*

Books and Pamphlets

Alcoa Aluminum in the Railroad Industry. A Report. . . 8 p. Illus. Pittsburgh 19, Pa., Aluminum Company of America. Free on request to Company.

American Railway Engineering Association. Proceedings of the 54th Annual Convention. . . Chicago, Ill., March 15-17, 1955. Vol. 56. xiv, 1227, vii [Index] pp., illus, diagrs., tables, plans, part folded. Chicago 5, Ill., American Railway Engineering Assoc., 59 E. Van Buren St. \$8.50 for members; \$10 for non-members. Committee reports and discussions include: *Passenger Ride Comfort on Curved Track*, pp. 125-214; *Curve Wear with Diesel Locomotives on the Bessemer & Lake Erie Railroad*, pp. 269-281; *Diesel Fueling Facilities*, pp. 357-368; *Electronic Devices in Yards and Terminals*, pp. 419-423; *Shop Facilities for Diesel Locomotives*, pp. 429-444, with bibliography pp. 443-444; *Air Conditioning of Railroad Office Buildings*, pp. 445-448; *New Developments in Work Equipment*, pp. 518-525; *Cooperative Relations with Universities*, pp. 565-587; *Bibliography on Subjects Pertaining to Records and Accounts*, pp. 650-660; *Natural Waterways: Prevention of Erosion* "by the use of steel jetties. . ." pp. 679-688 and *Track* pp. 733-888. Addresses include: *Railroading—A Challenge to Engineers*, pp. 1003-1006; *Railroad Interest in Atomic Energy*, by Ray McBrien and Col. Ralph L. Wassell, pp. 1006-1011; *Railroad Research Centers on New Horizons*, by G. M. Magee, pp. 1011-1017, and *Fair Play in Navigational Clearances for Bridges*, by Paul F. Royster, pp. 1034-1041.

American Railway Signaling Principles and Practices. Ch. XV—Block Signal Systems. Revised April 1955. 33 p. diagrs. Chicago 5, Ill., Association of American Railroads. Signal Section, 59 E. Van Buren St. 50 cents.

America's Road Problem—Highlights, by Economics Research Dept., Chase National Bank. 18 Pine St., New York 5. 23 pp. illus., diagrs. Dated July 1955.

Applied Electronics. Proceedings 1955 Spring Meeting, Chicago, Ill., April 12-14, 1955 of Railway Systems and Procedures Association. [xiv], 190 p., illus., diagrs., graphs. New York 8, N. Y. The Association, J. W. Milliken, Sec.-Treas., P. O. Box 514. \$5.00.

Atomic Power Potentials in Transportation, by John Jay Hopkins. 7 proc. p. Washington, D. C., Chamber of Commerce of the United States. Address before Transportation Luncheon, 43rd Annual meeting of the Chamber, May 1955.

An Atomic Powered Railroad Locomotive, by B. G. Gunnell, chief mechanical engineer, Southern Railway. Talk to Atomic Forum, New York, May 23, 1955. 11 p. Free on request to Association of American

Railroads. Operations and Maintenance Dept. 730 Transportation Bldg., Washington 6, D. C. Abstract in Wall Street Journal, May 24, 1955, p. 7.

The Coal-Burning Gas Turbine, by John I. Yellott and others. 7 p., illus., diagrs. Dunkirk, N. Y. Bituminous Coal Research, Inc., Locomotive Development Committee. Report for 1955 annual meeting.

Diesel Engine Progress, May 1955. 96 p., illus. London, S. W. 1, England, Tothill press. 5 shillings. "... A survey of the world status of rail traction engines and the largest marine and stationary types. Published ... on the occasion of the International Internal Combustion Engine Congress at The Hague, 1955."

The Dilworthy Story—The Biography of Richard Dilworth—Pioneer Developer of the Diesel Locomotive, by Franklin M. Reek. x, 105 p., illus. New York, McGraw-Hill Book Co. \$3.00.

Economic and Statistical Studies of Current Transport Problems in the United States and Canada, by L. A. Natesan, economic adviser, Ministry of Railways, India. iv, 118 p., illus. Calcutta, India, Eastern Railway Press. "For official use only."

Die Eisenbahn Europas, by Fred Anderson Weder. 64 p., illus., diagrs., maps. Zurich, 32 Switzerland, Anslieferungs-Verlag: F. Nageli. Swiss Francs 6.40.

The Elements of Transport, by Leslie A. Schumer. xii, 196 p. London, Eng., Butterworth & Co. 17 shillings. "When an organized and representative group of transport people in Victoria came to collaborate with the Melbourne Technical College in establishing a Certificate Course in Transport Administration, it was found that suitable elementary text-books for use in transport subjects hardly existed. Mr. Schumer immediately set about the self-imposed task of preparing a text book in a form that would make good some of this deficiency. ... "Foreword by F. P. Mountjoy, chm., Transport Regulation Board, Victoria, p. vii.

The Franco-African Transportation System. 12 proc. p. map. New York 21, Service de Presse et d'Information, Ambassade de France. Its African Affairs No. 13—April 1955.

Freight Train, by William Bunce. Drawings by Lemuel B. Line. Unpagd., New York, G. P. Putman's Sons. \$2.50.

Government's Obligation in the Field of Transportation—Panel Discussion with Secretary of Commerce Sinclair Weeks, at annual meeting of Transportation Association of America, Feb. 2, 1955, variously pagd. Chicago, Ill., The Association, 130 N. Wells Street.

History of Railway Locomotives down to the end of the year 1831, by the late C. F. Dendy Marshall. xii, 271 p., illus. diagrs. London, S. W. 1, England. The Locomotive Publishing Company, 88 Horseferry Road. \$7.00.

History of The Brotherhood of Maintenance of Way Employes—Its Birth and Growth 1888-1955, by D. W. Hertel. xxvii, 308 p., illus. Ransdell, Inc., Washington, D. C. \$3.50.

The Industrial Application of Atomic Energy, by Dr. Lawrence R. Hafstad. 16 p., illus. Address to New York State Bankers Association

by director, Atomic Energy, The Chase Manhattan Bank, published by the Bank, New York City.

Industrial Potentialities of the Lower Wabash Valley—A Report of Chicago & Eastern Illinois Railroad, Arthur Longini, Chief Economist. vi, 299, 145 p., illus., diagrs., maps. Contains *Directory of Establishments* in Selected Industries in the Lower Wabash River Valley Economic Area. Chicago 4, Illinois, Chicago & Eastern Illinois Railroad. "On request."

James J. Hill—A Great Life in Brief, by Stewart H. Holbrook. 205 vii p. New York, Alfred A. Knopf. \$2.50.

[*Locomotive No. USA—1281*—*Rail Transport Division, Locomotive, Diesel—Mechanical, Torque Converter*. July 1955. 6, 6 proc. p. Fort Eustis, Va., U. S. Army Research and Development Command. Describes transmission and gives brief history of the locomotive.

Mastering Momentum, by Lewis K. Sillico. 242 p., illus., diagrs., graphs. New York 7, N. Y., Simmons-Boardman Publishing Corporation. "... In revising that material (lectures at Massachusetts Institute of Technology 1940) in 1953-1954 the author has attempted to incorporate the advances achieved in railway mechanical engineering subsequent to the publication of the first edition."

Navigation Clearance Requirements for Highway and Railway Bridges, by Office of The Under Secretary of Commerce for Transportation, U. S. Department of Commerce, Washington, D. C., *February 1955*. vi, 158 proc. p., illus. For sale by Department of Commerce, 6225 Commerce Bldg., Washington 25, D. C. \$1.50.

The New ACF Talgo—America's First Lightweight, Low-center-of-Gravity Streamliner, by ACF Industries., 30 Church St., New York 8, N. Y. Press material released May 12, 1955 that included Wheels, May-June, 1955, containing *The New ACF Talgo*, by John Furrer, and photographs.

A Passing Report on America's Railroad Magazines and the People Who Produce Them—A Half-Century of Railwriting, by American Railway Magazine Editors Association, 1955. 15 p. New York 17, G. P. McCallum, Secretary, ARMEA, 5941 Grand Central Terminal. "On request."

Principles of Inland Transportation, 4th Edition, by Stuart Daggett. xx, 788 p., illus., maps, "References." New York, Harpers & Bros., 1955. "... This fourth edition ... is a complete revision. It is the product of several years of painstaking research and writing by the ranking scholar in the field ... " Preface to the 4th Ed. by E. T. Grether, p. xix. Professor Daggett died Dec. 22, 1954.

Quick Facts about the For-Hire Truck Industry, by and available on request to National Tank Truck Carriers Inc., 1424—16th St., N. W., Washington 6, D. C. "... a \$300,000,000 business that you should know. ... "

Railroad Accounting and Statistics—Research and Fact Finding As Aids to Management, by Edward H. Bunnell, vice president (retired), A. A. R. Finance, Accounting, Taxation and Valuation Dept., 1934-

1952. XV, 272 p. Chicago 6, Ill., Watson Publications, Inc. \$6.00. "... This is not an academic discussion on railway accounting but a factual and historical statement of the subject as it gradually unfolded in the past and as it is occurring today, with a look, too, in the future. As a realistic narrative of railway accounting this book should prove valuable as a historical document on the subject; as a dependable reference book, and as a students' general text book." C. W. Emken, ICC, in Pre-publication Comments, p. VIII.

The Railroad Police, by H. S. Dewhurst, ix, 211 p. Springfield, Illinois, Charles C. Thomas "The Police Science Series, 1955. "... it may rightly be said that railroad police and special service departments comprise today, collectively, the largest and most competent private law enforcement agency in the world. . . ." (p. vii). "The railroad police of the United States and Canada number less than 9,000 with commissions and are located in nearly 1,000 cities and towns. Yet they represent as many as 400 individual railroads, each with its own policies and practices to be considered at all times. . . . And their job is well done. . . . No organization today is more closely knit, more coordinated than the railroad police . . . (p. 3) . . . Attainment of police power for railroad employees was far from a ready-made event. The records indicate that the first gaining of official authority on a state-wide basis was the passing of The Railroad Police Act in the State of Pennsylvania, February 27, 1865. . . . (p. 11), in Ch. I. Background and Development. Ch. IX—The Trespassing and Juvenile Problems. Ch. V—The Protective Section, Association of American Railroads. Ch. VI. Traffic and Public Relations Value.

Railroading Around the World, by S. Kip Farrington, Jr. [ix], 230 p., illus., facsimis. New York, Coward-McCann, Inc. \$10.00. "On Thursday, May 18, 1950, I made a speech to the New York Railroad Club entitled 'Railroading Around the World.' I announced . . . that the name of this speech would be the title of a book I would undertake to write. Now, some five years later, . . . the book has appeared, and I trust it will be well received—at least for its pictures if for no other reason. My principal aim in writing this book was to put before the eyes of the North American railroad men and those interested in U. S. and Canadian operations the job that is being done by railroaders in other parts of the world. . . . The United States and Canada are omitted for obvious reasons. . . ." Foreword, p. vii. *English Railroad Terms As Used in British Empire, India, Australia, New Zealand, and Some of the Spanish-, German-, and French-Speaking Countries*, pp. 223-224. *Standard Code of Engine Headlamps*, p. 224. *English-Spanish Railroad Dictionary*, p. 225.

Railway Accounting Rules—Mandatory and Recommendatory . . . Effective October 1, 1955. 376 p. Washington 6, D. C., A. A. R. Accounting Division. \$1.00 to members; \$2.00 to non-members.

Railway Electrification in Switzerland, by H. Loosli. 78 p., illus., maps, diagrs. Berne, Switzerland, Swiss Federal Railways. \$3.00. Based on paper read before Institution of Locomotive Engineers, Leeds, England, May 22, 1952.

Revision of Federal Transportation Policy—A Report to the President [of the United States] prepared by the Presidential Advisory Committee on Transport Policy and Organization. April 1955. Cover-title, iv, 20 p. Washington, D. C., Superintendent of Documents, U. S. Govt. Print. Off. 15 cents. Members of Committee, p. IV.

The Road Ahead for U. S. Railroads, by Mills Shepard. 8 p. Erie, Pa., General Electric Co. Locomotive and Car Equipment Dept. "... A survey made for the General Electric Company ..."

Taxes and Traffic—A Study of Highway Financing, by Canadian Tax Foundation. Its Canadian Tax Papers No. 8, June 1955. 158 p. Toronto 2B, Canada, The Foundation, 191 College St. \$2.50. *Selected Bibliography—Canada*, p. 154-155; *United States*, pp. 155-158.

A Tentative Check-List of Early European Railway Literature 1831-1848, prepared by Daniel C. Haskell. [6], 192 p. Boston 63, Mass. Baker Library, Harvard Graduate School of Business Administration. \$5.00. Prefatory note by Arthur H. Cole, librarian, Baker Library.

Through All Europe by Train—Time-Table in Force from May 22nd, 1955. "... From October 2nd, 1955, beginning of the winter period, the schedules and runs of through coaches may be subject to alteration," p. 3. Cover-title in color, 63 p. incl. maps. Issued by Information Center of European Railroads (C. I. C. E.) and distributed in the United States by Conference of European Railroad Representatives, 509 Fifth Ave., New York 17, N. Y. Names and addresses of representatives of European railroads in U. S. and Canada, inside back cover.

Transportation—A Report to the Congress by the Commission on Organization of the Executive Branch of the Government. March 1955. xii, 126 p. Washington, D. C. Superintendent of Documents, U. S. Govt. Print. Off. 50 cents. "Hoover Commission Report."

Transportation In The Wisconsin Economy, by William Dodge, research associate, University of Wisconsin. 103 p. incl. maps and tables. Madison, Wisconsin, Wisconsin [University] Commerce Reports, v. 4, no. 4. \$1.15.

U. S. Electrical Wires and Cables for the Railroad Industry. 90 p., illus. New York, N. Y., United States Rubber Company, 1230 Avenue of the Americas.

Westinghouse Displays New Mobile Power Plant for U. S. Army. "... mounted on two railway cars ... for use in devastated areas." Press release with two photographs. Pittsburgh 30, Pa. 401 Liberty Ave., Box 2278. "On request."

Women's Progress in Transportation Since 1900—A Report to American Council of Railroad Women, St. Louis, Mo., March 19, 1955, by Elizabeth O. Cullen. 27 proc. 1. A. A. R. Bureau of Railway Economics Library, Transportation Building, Washington 6, D. C. "On request."

World Railways 1954-55. Third Edition—A Worldwide Survey of Railway Operation and Equipment, edited and compiled by Henry Sampson. 462 p., illus., maps, clearance diagrams. London W. 1, England, Sampson Low's "World Railways" Ltd.; New York, Chicago and San Francisco, Rand McNally & Co. \$25.00.

Articles in Periodicals

The ABC of Flashovers and Review of the Power Plant Regulating System on Alco Units, by A. V. Johansson. Southeastern Railway Diesel Club Proceedings, April 12, 1955, pp. 9-27.

Atomic Locomotive Quiz, by Edward J. Kehoe. Trains, July 1955, pp. 21-23. "An expert asks and answers timely questions about the next revolution in motive power."

A Brief History of the Sierra Railroad. The Western Railroader, Issue 186, April 1955. 39 p., illus., map, locomotive rosters. San Mateo, Calif., Francis Guido, publishers, P. O. Box 668. \$1.00. Issued for the "Farewell to Steam" excursion of Pacific Coast Chapter, Railway & Locomotive Historical Society. *Rails to the Mother Lode*, by Arthur C. Hender, pp. 4-13.

Centenaire de la Voie Ferrée de Lyon à Avignon, by H. and R. Long Darnaud. La Vie du Rail, Paris, France, July 1955, pp. 3-5, with comment *Cent Ans de Rail*, by André Siegfried, p. 16.

Comes the Revolution, by David Morgan. Trains, August 1955, pp. 18-21. Illustrations and timetables of Canada's new trains.

Consejero de Mantenimiento de Via del Programa de Asistencia Tecnica de los EE.UU.—Leonard Starbird. Formerly of the Maine Central and U. S. Military Railway Service. Nariz del Diablo—revista ferroviaria, Quito, Ecuador, March-June 1955. Biographical sketch, with portrait.

Crossing the Line: Tales of the Ceremony of Crossing the Equator during Four Centuries, New York Public Library Bulletin, August 1955, pp. 387-411. Compiled by Harry Miller Lydenberg, this part I covers the years 1529-1705. To be continued.

Development of the First Gas-Turbine Mechanical-Drive Locomotive, by E. L. Barlow, Jr. Mechanical Engineering, February 1955, pp. 133-136. Illus. Comment by S. D. Hoge and R. T. Sawyer, with author's reply. August 1955, pp. 717-718, with title: 'Transportation Corps' Gas-Turbine Locomotive. First gas-turbine locomotive with mechanical drive and first gas-turbine of any type owned by a military organization.

Diesel-Mekydro Powers Locomotives—Army Leads the way as Baldwin-Lima-Hamilton builds "GI" diesel-mechanical switcher soon to be followed by passenger units for New Haven and New York Central high-speed trains. Railway Age, September 5, 1955, pp. 43-45. Picture and tractive force curve of U. S. Army 1281. "A German Newcomer to American Railroads . . ." "Army Locomotive Characteristics" table p. 45.

Electrificación del Ferrocarril Guayaquil-Quito. Mensaje del General Eloy Alfaro a la Legislatura de 1909 . . . Dated: Palacio Nacional: Quito, a 27 de Agosto 1909. Reprinted in Nariz del Diablo—revista ferroviaria, Quito, Ecuador, March-June 1955, pp. 5-6, with editorial comment pp. 3-4. Picture of General Alfaro on front cover.

Electronics and the Box Car, by Sir Robert Watson-Watt. Canadian Railway Club Official Proceedings, April 11 and May 9, 1955, pp. 26-35.

Engine Smoke in the Big Woods, by Stewart Holbrook. Railroad Magazine, August 1955, pp. 12-23, 50. Illus. "... For eighty years or more the Shays and other steam workhorses have been hauling logs out of America's forests ..."

Les Expériences de Morcenx (Record de monde de vitesses sur voie ferrée 28-29 mars 1955), by F. Nouvion, chief engineer, S. N. C. F. Direction du Matériel et la Traction. Revue Générale des Chemins de Fer, Paris, France, May 1955, pp. 245-310. Illus., graphs, tables. Summary in English, pp. 339-340 mentions: "... The author ... declares that he does not know of any locomotives anywhere in the world, which, having been built for a maximum speed of 140 km/hr can nevertheless, without any alteration, attain the speed, without accident, of 200 km/hr. as was the case with the Bo-Bo No. 9004 and 240 km/hr. as was that of the Co-Co No. 7100." Summary in German pp. 341-343.

Lo Ferrovie dello Stato compioni cinquanta anni di vita, by Guido Corvellini. Ingegneria Ferroviaria—revista die transporte, Rome, Italy, May-June 1955, pp. 339-528. Illus. and maps round out history of Italian State Railways 1905-1955.

From Steam to Diesel—one hundred glamorous years. The Argonaut, August 5, 1955, pp. 8-10. Southern Pacific centennial celebration August 9.

Gas Turbines, by Bernhardt. The Engineering Journal, Canada, June 1955, pp. 753-762. Illus., diagrs.

Graficas de los Desastros Causados en la Linea Ferrea por la Creciente del Rio Chanchan el 31 de Marzo del presente año. Nariz del Diablo—revista ferroviaria, Quito Ecuador, March-June 1955, pp. 41, 63, 65. Photographs showing flood damage and reconstruction problems on Guayaquil & Quito, with caption descriptions.

Hydraulic-Drive Diesel for New Streamliners. New type to power Train X. Modern Railroads, June 1955, pp. 148-150. Illus.

... *Is the Ohio River worth a plugged dime to Kansas?* Trains, August 1955, p. 43, in "Turntable ... A Page of Opinion."

Una Laboriosa Escuela Incrustada en la "Nariz del Diablo." Progress of a school at Pishtishi, established in 1946 for children of railroaders—first and second-graders—that has grown into a school that now has grown into a school that takes care of older children—of non-railroaders as well as railroaders, and of adult railroaders in a far-off section. Nariz del Diablo—revista ferroviaria, March-June 1955, p. 66.

Lightweight Trains—At Last, by Francis Bello. Fortune, July 1955, pp. 110-113, 118. Illus.

La Locomotive d'Aujourd'hui, by Georges Chan. Revue Générale des Chemins de Fer, Paris, France, June 1955, pp. 394-406. Illus. Discusses modern steam; electric including French, New Haven RR's, and Russian monophasic; diesel-electric, gas-turbine, locomotives and atomic "rumors."

McCloud River RR Golden Spike Special, The Western Railroader, No. 189, Burney Gold Spike Special, July 2, 3, 4, 1955. 40 p. incl. illus. and map. San Mateo, Calif., Francis A. Guido, publisher, P. O. Box 668. \$1.00.

The Mighty Mallet, by H. L. Kelso. Railroad Magazine, August 1955, pp. 26-33. Illus. "... The immortal Frenchman's locomotive grew up to be the champion mountain-climber of the Appalachians, the Rockies and the high Sierras."

The Modern Southern Pacific. S. P.'s Centennial, by Nancy Ford and Edward T. Myers. "Mileposts in Southern Pacific's History 1855-1955" pp. 36-37. "Facilities of the Southern Pacific Ry. System"—map, pp. 40-41. "Fast Freights for the Golden Empire" pp. 52-54. Modern Railroads, August 1955, pp. 31-188. Illus.

Nevada-California-Oregon Railway, by David Myrick. The Western Railroader, No. 188, June 1955, pp. 1-20. Illus., Maps, Locomotive Roster. San Mateo, Calif., Francis A. Guido, publisher, P. O. Box 668. \$1.00.

New Thinking in Transport, by Professor Gilbert Walker. The Journal of the Institute of Transport, London, England, July 1955, pp. 159-165.

The Old St. Johnsbury & Lamoille County Railroad, by Neil Priessman. Vermont Life, Montpelier, Vt., Summer 1955, pp. 54-58. "Totes asbestos and pulpwood across northern Vermont, Offers sentimental journeys to the past."

The Outlook for Fewer Frustrations in Transport, by Perry Shoemaker, president, Delaware, Lackawanna & Western RR. Co. Monthly Bulletin, New York Chamber of Commerce, May 1955, pp. 15-23. Appendix . . . summarizing the specific recommendations contained in the April 18 report of President Eisenhower's Advisory Committee on Transport Policy and Organization, pp. 23-28. Report by Committee on Internal Trade and Improvements, Perry Shoemaker, chairman, on *Federal Transportation Policy* in June 1955 Monthly Bulletin, New York Chamber of Commerce, pp. 67-69 and 84-93.

The Panama Canal Review, Centennial Edition 1855-1955, January 29, 1955. 12 p. Illus. Balboa Heights, Canal Zone, The Review. 5 cents. 100 years of Panama Railroad.

A Portfolio of Great American Locomotives, by Clyde Carley. True—The Man's Magazine, August 1955, front cover and pp. 53-60. Illustrations in color.

Returning Railroad Management to Railroad Managers, by Harold Koontz. Pacific Railway Club Proceedings, June 2, 1955, pp. 9-28.

Der Speisewagen- und Schlafwagenverkehr als Instrument zur Förderung des Fremdenverkehrs, by Prof. Dr.-In. Edmund Frohne. Die Bundesbahn—Organ der Hauptverwaltung der Deutschen Bundesbahn, Darmstadt, Western Germany, August 1955, pp. 623-628. From Compagnie Internationale des Wagon-Lits beginnings in the 1870s; Mitropa/DSG, and specially developments since 1945 thru Trans-Europ-Express-Verkehr, with a look at the future.

La Srta. Margaret Pape y La Oficina del Ferrocarril [Guayaquil-Quito and Ferrocarriles Ecuatorianos] *en New York*. "en 30 Rockefeller Plaza." Nariz del Diablo—revista ferroviaria, Quito, Ecuador, March-June 1955, p. 88. Miss Pape began working for the Guayaquil and Quito on June 1, 1925. Port.

This Train Will Save An Industry—The New York Central Brings You A Fast, Lightweight New Train That Can Revolutionize Rail Travel, Increase Employment, and Strengthen Our National Defense. Advertisement, illustrated, of New York Central in The Wall Street Journal, September 2, 1955, p. 5. Drawing of GM-T1 "first of two 'dream trains' soon to be running on the Central. The second, called 'Train X,' is now being built by Pullman-Standard. It will make its appearance in the Spring."

"We don't get traffic by accident"—Enlarge the sales staff, pay them a relatively low salary but add a generous bonus from earnings, give every shipment personalized passing service—such are the ingredients of this unusual short line's success formula. ". . . the 30-mile Roscoe, Snyder & Pacific . . ." Railway Age, August 29, 1955, pp. 35-37. Illus.

"Wheels to the Arctic"—Highway to the Arctic Ocean, by Colonel G. L. Curtis, USAF. National Defense Transportation Journal, July-August, 1955, front cover and pp. 30-32. Illus. "In a pioneering adventure which made transportation history, a common carrier has driven its regular highway trucks from Fairbanks, Alaska, to the shores of the Arctic Ocean, carrying supplies and fuel for construction of the U. S.-Canadian 'Dew Line' radar screen. . . . The project began in the latter part of 1954, when Alfred Ghezzi, Jr., President of Alaska Freight Lines, Inc., made an unusual proposal of the Western Electric Corp., prime constructor in charge of handling the 'Dew Line' radar screen across the Arctic perimeter between Alaska and Greenland. . . ."

World's Longest "Dome Ride" [in Canada]. Steel Horizons, Allegheny Ludlum Steel Corporation, Pittsburgh, Pa., Second Quarter 1955, pp. 2-5. Illus.

New Books

From Mine to Market—The History of Coal Transportation on the Norfolk & Western Railway, by Joseph T. Lambie. 380 pages, 9 $\frac{1}{4}$ x6. Illustrated. Published by the New York University Press, Washington Square, New York (3), New York. Price \$6.00.

The oldest segment of the present Norfolk & Western Ry. was the City Point R. R. chartered in Virginia in 1836 to build a railroad between Petersburg and the hamlet of City Point, located at the head of navigation on the James River. The Southside R. R., Petersburg to Lynchburg, leased the City Point R. R. which had been reorganized as the Appomattox R. R., in 1854 and the South Side, together with the Norfolk & Petersburg, extending between those two places and the Virginia & Tennessee R. R., Lynchburg to the Tennessee border, were consolidated to form the Atlantic, Mississippi & Ohio R. R. in 1870 under the guidance of General William Mahone. The depression of the 1870's caused the road to go into receivership and, in February, 1881, a group of Philadelphia capitalists purchased the road at auction and reorganized it as the Norfolk & Western R. R. with Frederic J. Kimball as the dominant figure. The depression of the 1890's was the cause of a second receivership and it emerged as Railway instead of Railroad.

The new owners in 1881 quickly realized the success of their property lay in the vast coal deposits of what is now known as the Pocahontas field in West Virginia. Mr. Kimball's report set friends of the railroad to acquire these lands and to lease them to the mining operators and it also set the railroad to build a seventy mile line to reach these fields. On March 17, 1883, the first carload of Pocahontas coal rolled into Norfolk amidst a display of flags, the booming of cannon, consigned to a hero of the late Confederacy, now Mayor of Norfolk. From that day onward, coal commenced to increase in volume until it now forms the major portion of its traffic. In the years that followed the road was extended westward to Cincinnati and Columbus, both in Ohio; the Shenandoah Valley R. R., acquired in 1882 brought the line into Hagerstown, Md., and numerous branches have been built into the coal fields including the one to Norton to connect with the L & N. An attempt was made to secure control of the East Tennessee, Virginia & Georgia R. R., extending from Bristol to Selma, Alabama to Chattanooga and Knoxville, but the managers wisely declined to go into further debt and the road is now a part of the Southern Ry.

The Norfolk & Western came into direct competition with the Chesapeake & Ohio, Baltimore & Ohio, Pennsylvania and New York Central Railroads and later the Virginian. These roads tried to fix the rates from mine to tidewater as well as tonnage each of the fields served by the roads was to mine. Like all other agreements, they were broken almost as soon as they were made and it was not until President Cassatt of the Pennsylvania purchased controlling interest in the B & O, C & O and N & W in 1900 that these agreements were lived up to. It might be added however that both the P. R. R. and the B & O were the

worst offenders and in the years that have passed, the P. R. R. has disposed of its holdings in the B & O and C & O Railroads.

The author has presented an interesting account of the Norfolk & Western Ry. during these years, not only their relationship with the other coal carriers but the way they developed the properties along their own lines and the way they served them, not only as to rates but as to car distribution. Most of the coal goes for steel-making, for power and for heat and with these basic industries plus the growth of this nation, the management has confidence in its future as a coal carrier. The book is a valuable contribution to the series of volumes on our industries, it is well indexed, the maps are of great value and the only regret is that with the wealth of photographs in the files of that road that more could have been used for illustrations. It is a book you'll be glad to read and have for reference.

The Old Fall River Line, by Roger Williams McAdam. 280 pages, 8 $\frac{1}{4}$ x5 $\frac{1}{2}$. Illustrated. Published by Stephen Daye Press, 105 East 24th St., New York (10), N. Y. Price \$5.00.

The author of this book needs no introduction not only as an authority but as a lover of those giant white steamships that plied Long Island Sound. In this book he has broadened his subject to include some of the vessels of the competing lines and he has concluded with an interesting account of their war service. The "Richard Peck (Elisha Lee)" ended six decades of service on the Cape Charles-Norfolk route.

On May 19, 1847, the steamer "Bay State" left Fall River upon the arrival of the cars from Boston and thus commenced "America's oldest through route" as it was called in the Eightieth Anniversary Edition of the Fall River Line Journal. For ninety years this line served New England and served it well, its great white steamships leaving either end of the line every night despite the rain, fog, ice or storm and, during these years this line established not only a remarkable record of punctuality but of safety—only one passenger lost his life during all these years and that was in a collision between two of their own vessels. Few transportation companies can come near this record.

Fall River Line men were capable seamen—they had to be in order to meet the high standards set up by the management. William S. Scarlett, Chief Steward of the "Priscilla" saw sixty years service on this line; Capt. Frank Avery of the "Providence" was with the line forty-eight years; Capt. Ollweiler of the "Commonwealth"—forty-one years and there were countless others. These vessels were designed especially for this service and they were equipped with the best safety devices. The "Pilgrim," completed in 1883, had a double iron hull, first vessel to be so constructed in this country, Thomas Edison superintended the installation of the electric lights, they were not used in our White House until seven years later and she was the first to have a watchman's clock system and automatic fire alarms. The line overlooked nothing in the matter of safety and comfort for its patrons.

During the summer months, two vessels sailed each evening from Fall River and New York. There must have been, at times, easily four

thousand passengers on these boats of a single evening and they came from all walks of life—the great, near-great and the unknown. Long Island Sound was a busy place with all the shipping and there was many a rescue in which these steamers played a heroic role. To see one of these large white vessels approach the wharf at Newport on the west bound journey on a summer evening, round the Torpedo Station and dock on the starboard side and then take off and disappear into the night was an unforgettable sight.

The high construction and operating costs have swept our coastwise shipping lanes clean of vessels and the Fall River and its sister Providence Line and its competitors, the Eastern and Colonial Lines are but a memory. The author has done a fine piece of work in recounting the story of this justly famous line, and altho' most of our members are interested in the railroad feature, if you would pause to observe the passing of a train drawn by a steam locomotive and I doubt if there is a single one of us that would not, then if you had seen "Priscilla" on Mount Hope Bay or approaching Newport, I think you would have paused again and, well you might.

Pictorial History of the C & O Train and Auto Ferries and Pere Marquette Line Steamers, by Arthur C. and Lucy F. Frederickson. 70 pages, 9x6. Illustrated. Copies may be procured from A. C. Frederickson, Box No. 272, Frankfort, Michigan. Price \$1.65.

It seems a bit difficult to reconcile the Chesapeake & Ohio which has always been associated with the coal carriers with a system engaged in Great Lakes transportation but, with the acquisition of the Pere Marquette Ry., the C & O followed in the foot steps of its predecessor.

The book starts with an account of a party that chartered the steamer "Gazelle" on July 15, 1859 to carry them from Manitowoc to Pere Marquette (now Ludington) across Lake Michigan. The reason for this excursion was the building of the Flint & Pere Marquette Ry. across the State of Michigan and it was to the interests of the Wisconsin cities on Lake Michigan to connect with this line by means of some steamship connection. This would shorten the journey via Chicago. At first ordinary steamships were used, the freight was transferred from car to ship. The Ann Arbor R. R. was the first to use the car ferry in 1892 and the Pere Marquette followed in 1897. Over the years changes and improvements have been made in the construction and seaworthiness of these ferries, they carry automobiles now and a trip on one of them across the lake is a delightful experience. The authors have told their story in the pictorial method but the titles are adequate and they must have scoured the country to locate them. All in all it is a very interesting account of an important railroad adjunct.

'00' Gauge Layout and Design, by Ernest F. Carter. 102 pages, 7¼ x 4¾. Illustrated. Published by Percival Marshall & Co. Ltd., 19 Noel St., London, W. 1, England. Price 3/6.

How many of our members are interested in model railways, this reviewer has no idea but, if any of our members are interested in this well worthwhile hobby, this book should be of considerable help to one,

especially if he is starting to build his layout. In the 102 pages, the author has considered the amount of space needed and how best it can be utilized; the drawing up of a plan including the different types of layout, where to place the track and all of the proper facilities that accompany the average railroad. The book is illustrated with scenes from actual railways and it contains a wealth of track designs. To one interested in model railways, it would seem as tho' this little book could be of great help and value.

Foundrywork for the Amateur, by B. Terry Aspin. 93 pages, 7 $\frac{1}{4}$ x 4 $\frac{3}{4}$. Illustrated. Published by Percival Marshall & Co. Ltd., 19 Noel St., London, W. 1, England. Price 5/0.

For the model railroader that plans to build his own equipment, this book should be of no little interest and value. It covers the matter of crucibles and their care; moulding sands, moulding boxes or flasks; pattern making; cores and coreboxes; making the mould and melting the metals. There are 86 figures and a dozen illustrations and the author writes in a easy and clear fashion so that it can be readily understood.

In Memory of

C. W. Boyce
Annual Member
292 First Ave., Ottawa, Ontario, Canada
Who Died in November, 1953

Major C. A. Branston
Annual Member
4 St. Johns Road, Cambridge, England
Who Died on March 1, 1955

Francis Brown
Annual Member
10 Broad Street, Salem, Massachusetts
Who Died in October, 1953

R. R. Deffenbaugh
Annual Member
7407 North Wolcott Ave., Chicago, Illinois
Who Died in March, 1955

Bradford K. MacGaw
Annual Member
4610 Midland Pike, Chattanooga, Tennessee
Who Died on January 25, 1955

Dr. W. H. Ordway
Annual Member
54 Longview Drive, Longmeadow, Massachusetts
Who Died on April 1, 1955

Henry Parsons
Annual Member
101 Park Avenue, New York, N. Y.
Who Died on December 8, 1954

John Warren Stowell

John Warren Stowell, owner of the printing establishment bearing his name, died of a heart attack at 6:30 A. M. on October 5th.

Born in Williamsport, Pennsylvania, in 1869, the son of a printer, it was only natural that he would follow along in this work. He came to Federalsburg, Maryland in 1886 and started his printing business in his own home. Gradually the work expanded to a small shop and subsequently to the modern plant that it now occupies. At one time he published the "Federalsburg Courier," a weekly newspaper, but he sold that in 1926. In later years, he specialized in the publication of philatelic magazines and there is hardly a stamp collector in this country, as well as in many others, that has not heard of John W. Stowell. Last year he reached his 86th "milestone" and there were well deserved tributes paid to him and to his work. At the time, he stated that "bicycling kept him young." Altho' he had stepped aside in favor of his son in managing the plant, he liked to run the linotype machine and some of our recent bulletins were set up by this veteran printer.

It was prior to the founding of this Society that your Editor made the acquaintance of Mr. Stowell but that cheery welcome together with that frank and open countenance has lasted for over thirty years. It was only natural that we gave him the opportunity of bidding on our publication when this Society started. In the years that this Society has been organized, he has printed over 100 editions of our bulletin and in all of these thirty-four years has grown up a friendship and an understanding of the "other fellow's" problems. And that is something to look back on.

The family, the philatelic circles as well as this Society have lost a genuine friend in the passing of this fine gentleman and altho' he never was a member of this group the writer well knew of his interest in and his partiality towards it. We shall miss him in the years to come but we can never forget him.

ring

nter,
came
ss in
sub-
e he
sold
telic
well
ar he
paid
him
ging
ecent

made
with
. It
our
ciety
and
nder-
ng to

ost a
never
and
e but

